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Vol. XV

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No. 8

Original Articles

DYSMENORRHEA WITH ANTEFLEXION AND RETROCESSION.*

FRANK A. PEMBERTON, M.D.
BOSTON, MASS.

No attempt will be made to cover the whole subject of dysmenorrhea in this paper as that would involve the useless restatement of matter which you already know. We have attempted to treat one type of case in what seems to be a logical manner and wish to explain the method and the results we have obtained.

Many of the patients suffering from dysmenorrhea are found to have on examination, a small, anteflexed uterus which is situated lower down and further back in the pelvis than usual, a position called retrocession. The uterus as a whole is usually tipped backward, the cervix pointing straight down the vagina or sometimes forward. The fundus is small and thin, of the undeveloped type, while the cervix is either short and small, or long, thin, and conical, but its proportionate size as regards the fundus is larger than normal in the adult. This is the normal condition of the uterus before puberty and it would seem that in this class of patients the uterus does not develop at the time of puberty. The persistence of this position is probably due to a deficient development of the uterine musculature which under normal conditions enormously increases at puberty. Therefore we may consider that anteflexion with retrocession is a condition of relaxation and it is logical to treat it as one would other conditions of relaxation such as retroflexion and prolapse, that is by suspension of the uterus.

It has been our experience to find, in the majority of these cases, that the cervical canal is not obstructed; that is if the ordinary uterine sound be bent in the proper curve it can be inserted into the uterine cavity with no difficulty and the cervix can be easily dilated.

However, we find some cases in which difficulty in dilatation is met at the internal os or at the point where the uterus is bent. We use the graduated Hank's dilators followed by the Goodell. On inserting the smallest dilator a definite obstruction is felt which gives suddenly, when sufficient force is applied, as if the tissues were ruptured, after which the dilatation proceeds smoothly, although with more difficulty than in the first class of cases. We feel that this obstruction is probably due to a cicatricial band at that point.

When the abdomen is opened these uteri are found to be slumped down in the hollow of the sacrum. On lifting them up they are felt to be flaccid and, if drawn up by the round ligaments, they straighten out perfectly because they are so limp. This is the only way that the cervical canal and the uterine cavity can be straightened out without doing a cutting operation on the cervix.

The operative procedure carried out is as follows: The cervical canal is first dilated in order to overcome the obstruction we have spoken of if it is present. No curetting is done unless there is indication for it. The commonest indication is a chronic endocervicitis which is sometimes found in these cases, and if such a condition is present, the cervical canal is thoroughly curetted and then cauterized by the insertion of a thin bladed actual cautery, first with the plane of the blade in the antero-posterior direction and then at right angles to this.

Next the abdomen is opened and examined for any pathological process, which is remedied if present. Then the uterus is drawn up and the round ligament sutured to the anterior abdominal wall at points above the pubes on each side of the incision so that the uterus can be felt to be straightened out by silk sutures passed around the round ligaments one-half an inch from their insertion into the uterus, and through the peritoneum, muscle, and fascia of the abdominal wall. This point of attachment on each side is one to one and one-half inches above the symphysis. Careful examina-

*Read at Fiftieth Annual Meeting M.S.M.S., Grand Rapids, September, 1915.

tion shows that this is done without pulling up on the vagina.

We have done this operation eighty-six times with no mortality. These were cases which showed only anteflexion with retrocession; there being no pathological process such as adhesions, fibroids, and so forth. We have been able to trace forty-four of them. Four of these patients say that they are entirely relieved of their symptoms; nine say that they are much better; and twenty-three say they are better than before operation. Of the remaining eight, seven are no better and one is worse. That is, approximately 80 per cent. are benefited by the operation.

In regard to length of time since the operation of those benefited:

- 17 per cent. were done 5 years ago.
- 17 per cent. were done 4 years ago.
- 42 per cent. were done 3 years ago.
- 11 per cent. were done 2 years ago.
- 11 per cent. were done 1 year ago.

Of those not benefited by the operation only one said that she was relieved for a few months and then relapsed to her former condition.

These results are better than those obtained by the other methods which have been tried in the clinic at the Free Hospital for Women. Simple dilatation gives, with us, only about half the patients benefit. Successive dilatation carried out conscientiously by Dr. H. W. Baker gave 66 per cent. of patients benefit. The use of the stem pessary is dangerous on account of the likelihood of starting a salpingitis and it quite frequently leaves the patients with a distressing endocervicitis. The various operative procedures on the cervix are all mutilating and likely to leave the patient with a chronic cervicitis.

CONCLUSIONS.

We may consider anteflexion with retrocession as a condition of relaxation which should be treated as such.

My thanks are due to Dr. W. P. Graves who suggested this method of treatment, for allowing me to report his larger number of cases with my own.

SLEEP AND SLEEP-DISTURBANCES.*

W. W. KAHN, M.D.

DETROIT, MICH.

While it is a musty truism, that life is a state of activity broken by rest, as a matter of fact, rest or sleep is of such overwhelming importance

that life can be defined, with probably greater correctness, as health-giving rest interrupted by body-destroying activity. Rest is the original and permanent cosmic state out of which temporary activities arise; rest is the mother to whom the child returns with its hurts and bruises; rest is, as Gould says, the real *vis medicatrix naturae*, nature's healing force.

Sleep is so evidently a part and parcel of normal life that any attempt to eliminate it for too long a time will invariably cause dissolution and death. A normal phenomenon of such eminent necessity can be expected to be dealt with commensurate earnestness, but a quest of the text books on physiology reveals that as a rule the subject of sleep is not mentioned even in their indexes, let alone taught with becoming sincerity. Why this is so is not quite clear to me, as there is a voluminous literature on sleep and sleep-phenomena by laboratory experimenters, by psychologists, philosophers, neurologists, alienists, and other persons interested in mental and neural life.

But today, as of yore, most of us have a home-made theory of sleep with the result, that today, as of yore, the treatment and cure of sleeplessness still constitutes a great stumbling block in medical practice.

While the last word has not yet been said about the physiologic phenomena of sleep, the world has gained much knowledge from the investigations of Durham, Hammond, Howell, Mosso, Von Kries, Von Frey, Von Recklinghausen and numerous other investigators. They thought to prove by laboratory experiments that sleep is caused by cerebral anemia or by poisoning of the system by the fatigue-products accumulating in the blood as end results of bodily activities.

On the other hand, Dr. John F. Shepard of Ann Arbor undertook in 1913 a very thorough study of the circulatory phenomena of sleep. He found that during sleep there is a marked and sustained increase in the volume of the brain due to an active hyperemia and that dreams are not a normal phenomenon of sleep, but a disturbance of it caused by inner or outer stimuli at a time when the body nears the waking state.

Whether cerebral anemia or hyperemia accompany sleep, they certainly are not its causes, as both are also met with in the waking state; neither are the toxins the real cause, for as Dr. Boris Sidis, the famous Harvard psychologist, insists: Sleep is not a disease, not a pathological process, but a normal state and a protective function. We sleep, not because we

*Read before the Tuscola County Medical Society, May 25th, 1916.

are poisoned, but that we shall not be poisoned or exhausted.

Another explanation is given by the greatest of all medical philosophers, Dr. Geo. M. Gould. He is so much impressed by the unspeakable wonders of sleep that he finds the only thinkable solution of this riddle in the assumption of a superhuman intelligence or, as he calls it in this connection, the chief engineer of our marvellous body machine.

But no matter how we may explain the phenomenon of sleep, the facts remain, that sleep is a normal and necessary part of life, that sleep is dreamless and that dreams are a disturbance of sleep, that insomnia is positively injurious to health, and that we as physicians ought to be and are greatly interested in the causes and cures of insomnia and disturbing dreams and nightmare.

There have been as many explanations for sleeplessness and dreams as there have been for sleep. Sleeplessness may be caused by irritations, pain, organic diseases of the viscera, by poisons (lead, arsenic, etc.), by stimulants (tea, coffee, etc.); but probably more than nine-tenths of all insomnias have no visible organic cause. Some psychologists have placed the reason for insomnia to a faulty state of mind of the patient, to his supposed fear of terrifying dreams or his fear that he will be unable to sleep on account of some previous sleepless nights, and thereby develop a case of so-called intrinsic insomnia.

Again every dream represents, at bottom, according to Sigmund Freud and his school, an imaginary fulfillment of an ungratified wish, and every nightmare is an expression of intense mental conflict centering about some form of "repressed" sexual desire.

The treatment of insomnia as advocated by the psychologists is more or less a treatment by suggestion. Dr. Thomas Hyslop, the famous English psychologist, recommends prayer as quite effective. Hypnotism was very popular for some time, but was finally found to be wanting. Then suggestion was advocated, especially by Dr. Boris Sidis. But if, according to the psychologists, the patient fails to sleep first after the use of hypnotism and then of suggestion or auto-suggestion (prayer), if the attempt to show him the error of his mode of thinking has been fruitless, then there is reason to suspect the presence of a "subconscious complex," very likely an "Oedipus complex," ascertainment of which by psychologic analysis will prove the way to cure.

The regular practitioner, who would not

recognize an "Oedipus complex" if he met it face to face, uses sulfonal and other hypnotics; but as Marie de Maniceine wrote about twenty-five years ago, the effect of narcotics resemble sleep by producing temporary interruption of consciousness, at which point the resemblance ceases. So the medical profession soon lost faith in hypnotics and uses it today only when a temporary cessation of consciousness is absolutely necessary. In its stead, it uses dietary and hygienic measures and the routine ordering of massive doses of bromides, well diluted, three times daily before meals and once before going to bed.

It is useless for me to emphasize before a body of physicians the fallacy of these procedures. Every one of you know how little can be done for insomnia. This would not and ought not to be so if you had been told about the results achieved by hundreds of creditable physicians all over the country, published with exceeding frequency in creditable medical journals for the last twenty-five years, a mode of treatment and cure of sleeplessness and sleep-disturbances that is so much a matter of daily routine in hundreds of medical offices, that the wonder is how any medical practitioner can escape knowing about it. This method is the one used all over this wide land by the oculists by means of carefully and scientifically fitted glasses.

The rationale of it can not be better stated than in the words of Gould, as published in the second volume of his *Bibliographic Clinics*.

"The astigmatic and anisometropic eye can scarcely rest from muscular and innervational strain for a second of the sixteen waking hours. The heart rests every beat; every organ and every muscle rests, because no muscle can be steadily innervated for more than a few minutes without painful effort. The safety of the organism requires this sixteen-hour restlessness of the astigmatic eye. Nothing like this denial of this absolute law of physiology exists in any other organ in the body. The eye dare not be injured, and any injury to it must be reflexly shunted to the brain or to other organs; in extreme cases of overuse, the fundamental conditions of organismal existence, nourishment and cerebral control, are denied, and the organism itself is profoundly hurt or even destroyed. That, or something like it, is the philosophy of eyestrain and of reflex ocular neuroses.

"Lastly, the injury to the cerebral and neural mechanism and its exhaustion is so great by the sixteen-hour struggle that when at night it is given over to the chief engineer, the repair-

ing is such an active process that there is no rest possible, and the human consciousness is aroused and awakened by the very stir and din of the repairing process. That, or something like it, seems to me to be the philosophy, or rather physiology, of the insomnia of eyestrain."

What are my own experiences with refraction as a cure for insomnia and nightmare?

Of the last four hundred cases, one hundred and fifty-one suffered from more or less severe sleeplessness. The duration of their sleeplessness was as varied as the severity of this malady. Of the 151 patients eighty-seven reported recoveries or substantial improvements and sixteen reported failures.

Twenty-four of the one hundred and fifty-one insomniacs also suffered from nightmare, as also sixty-eight others who enjoyed healthful sleep, when not disturbed by terrifying dreams. Of the ninety-two nightmare sufferers, forty-seven reported recoveries, while six failed to improve.

To repeat: Out of 400 patients:

127 suffered from poor sleep without nightmare.

24 suffered from poor sleep with nightmare.

68 suffered from nightmare only.

Total 219 patients suffered from some form of sleep-disturbance.

The percentage of recovery in this series of cases was 85 per cent., a percentage that is, no doubt, duplicated in hundreds of refractionists' offices.

So out of 400 eyestrain sufferers, 219 or over 50 per cent. had more or less broken, pitiful, restless sleep, and interrupted by frightful dreams. None of them received any other treatment than their glasses. No fanciful hypnosis was tried, no searching for Freud's Oedipus or other complexes was undertaken, nor were bromides in massive or homeopathic doses prescribed. To be sure, the cures are not permanent, for the patients will stay cured only so long as they remain perfectly glassed. Should they refuse to wear their glasses properly, or should a subsequent change in their refractive errors not be promptly and correctly neutralized by new glasses, the old reflexes may return in full, or in part, or an entirely new set of symptoms may make its appearance.

Much has been said about the baneful influence of worry, mental strain, and the intensity of our modern life on healthy sleep. Clinicians of the highest rank have insisted upon these conditions as important causes of

insomnia. Sir James Sawyer, an English authority, in one of his lectures describes a case of a young professional man, who in the beginning of his practice has been waiting, waiting for clients or patients. He needs money, but he refuses to borrow—he wants to earn it "and while he has been hoping and waiting, he has been working early and late in his exhaustive studies, perhaps straining his powers for some higher examinations; at last, he has fairly broken down. He looks thinner; he is filled with groundless fears; he is weighed down with the ineffable misery of insomnia; he has headache constantly and noises in his ears; he thinks his energy is failing; he is dull and listless; he has been lying awake for hours after going to bed, or, waking in the 'small hours,' he has been unable to sleep again, and when he slept he has had horrible dreams; and he comes to us for help because he can scarcely sleep at all, and he is possessed by the fear that he is going mad. His misery is urgent; it is the unspeakable misery of intrinsic insomnia."

What is this intrinsic insomnia? How ought we, by the light of modern experiences, diagnose this case? Does the beginner in the practice of medicine suffer from insomnia while waiting and worrying for patients or does he go to bed to be sound asleep in a few minutes forgetting patients or rather the lack of patients? Every one of us had to go through the same struggles and none of us, I dare say, had a case of intrinsic or, for that matter, extrinsic insomnia. While worry does diminish bodily resistance, it does not cause a symptom-complex as so vividly described by Dr. Sawyer. There is only one cause, that according to our present-day knowledge would cause all these symptoms in an otherwise healthy young man, and that is *eyestrain*. The crux of this case lay in the fact, that the patient had been working early and late in exhaustive studies for some higher examination without correct glasses. Debilitated by financial worries, he broke down when he put his eyes to an extra amount of strain. He began to show typical symptoms of eyestrain; he had constant headaches; he had the noises in his ears so often connected with headaches; it took him hours to fall asleep, and he awoke in the small hours unable to sleep again; he also had nightmare; he showed the characteristic eyestrain symptom of groundless worrying; he began to lose weight, and as likely as not, unable to procure medical help, he went insane or committed suicide. If you scan closely the suicide reports in our daily papers, you will find sufficient reports of suicides by people who had no

financial worries, but who were always ailing, who had been the rounds of our best physicians and still had been unable to achieve health, who had been long sufferers of insomnia unrelievable by hypnotics and, who, in an hour of extreme despondency, threw off life's burden.

To sum it all up:

Sleep is a normal state of life.

Dreams are sleep-disturbances and more or less pathologic, especially nightmare.

No satisfactory physiologic explanation for the sleep-phenomenon has as yet been found.

The best explanation for functional insomnia and nightmare has been given by Gould in his theory of overstimulation with consequent exhaustion.

Eyestrain is by far the most frequent cause of reflex neuroses, of which insomnia and nightmare are a part.

One-half of all people suffering from eyestrain also suffer from some form of sleep-abnormality.

About 85 per cent. of my insomnia and nightmare cases, evidently due to eyestrain, were cured by glasses.

The welfare of a suffering world is impatiently waiting for the awakening of the medical profession to the new and better teachings of functional pathology.

510 Fine Art's Building.

CONSTIPATION IN INFANTS.

J. B. JACKSON, M.D.

* KALAMAZOO, MICH.

Constipation is a common condition in infancy. There is some reason for this in the anatomy of the gastro-intestinal tract of the infant. Compared with that of the adult the colon is long and moveable. The mesentery is long and allows the colon to kink easily. The sigmoid drops down and thus forms a reservoir which is not readily emptied. This anatomical condition is the rule in early infancy. In addition, there sometimes occur departures from the normal anatomy which result in the most dangerous types of constipation. Of these we may mention two anomalies which have been recognized not infrequently of late. The first is congenital pyloric stenosis. These children are constipated because not enough food passes out of the stomach to form a proper stool. The second is the condition known as megalacolon or Hirschsprung's disease. The colon is greatly dilated and the bowel may go for days without any of the contents escaping.

It is the purpose of this paper to discuss constipation in the child of normal anatomy. We shall consider only those more common forms of constipation which one is constantly being called upon to treat.

The diagnosis of constipation in infants as a rule offers very few difficulties. However, one must not take the statement of nervous or inexperienced mothers without careful consideration. Mothers will often state that a child is not constipated because the child has one stool a day. This stool may be dry and hard and entirely too small. On the other hand a child may go for thirty-six or forty-eight hour intervals and have a large soft stool that is perfectly normal in every way. A mere statement of the frequency of the stool is not sufficient. One should inquire as to the color of the stool, its consistency, size, and whether it soils the diaper or rolls off in a putty like mass scarcely leaving a stain. The presence of mucus or blood may indicate irritation of the rectum from retention of the stool until it is hard and scybalous. A formed stool of very large diameter often indicates an abnormal retention within the rectum. Such a stool may, however, be passed without the child's having any other signs of constipation.

Having made certain that the infant is suffering from constipation, the next thing to do is to determine, if possible, the cause. It is apparent that the etiology of the condition may be different in the case of the baby who takes mother's milk from the breast and that of the baby who takes cow's milk from a bottle. There are some factors, however, which may be present in both conditions and these we shall consider first.

The common and pernicious use of cathartics in infancy I should place first in the list of the causes of constipation. If the baby has the colic, or vomits because it eats too much or has a cough, it is given a physic. If the baby's bowels move too often or not often enough a physic is given. If the baby cries because it is too warm or too cold or because it is not kept clean or dry or because it is hungry or otherwise neglected, physic is expected to remedy these ills. Not long ago I saw a baby who had taken a teaspoonful of castor oil every night for six weeks. When I was called, I asked the mother why she gave oil. She said "Because the baby was constipated." Of course no one could tell whether the baby was constipated or not. When the oil was stopped and the mother's diet was regulated the baby was not constipated. One frequently sees a baby who is given a physic

at bed time and paregoric because it cries in the night. Very recently I saw a baby who had been given senna tea at night. Later when she began to cry from the griping of the physic she was given paregoric to keep her quiet. The abuse of cathartics causes much gastro-intestinal disease and many deaths among infants under one year of age. This abuse of cathartics is a cause not only of constipation but of all sorts of gastrointestinal disturbances. It has been observed that children who develop intussusception frequently have a history of the continuous use of severe cathartics. There is another cause of constipation which should be mentioned in this connection. It is the injudicious use of enemata and suppositories. The child soon learns to wait for this stimulation of the rectum and does not have a stool until the stimulation is supplied.

A second cause of constipation which may occur in either the breastfed or bottlefed, is gastric indigestion and vomiting due to improper habits in feeding. Babies that are fed at frequent intervals or are fed too much or improper food may have their gastric function so deranged that they are unable to retain a proper amount of food. They become constipated for the same reason that a baby with a pyloric stenosis does. Not enough food gets into the bowel to form a proper stool. Obviously the use of castor oil or an enema will not produce a free evacuation of fecal matter if it is not present in the bowel.

Babies who are given insufficient food either from the breast or the bottle are constipated for the same reason. The residue left after digestion is so small that peristalsis is not stimulated and the stools are small and infrequent. Constipation in the nursing baby should always bring up the question of the amount of milk that the baby is getting at a feeding. This may be ascertained by weighing before and after feeding or if this means is not available, by watching the child's weight from week to week. Failure to gain in weight associated with constipation and not associated with gastric disturbances almost always indicates insufficient food.

Another cause which may be found in children either breastfed or bottlefed is fissure of the anus. This cause is usually of short duration, but is a very effective one when present. When the anus begins to dilate, severe pain is produced and if it is possible the child ceases to strain. The longer the defecation is postponed the more severe the pain on attempting to pass the stool.

In breast feeding constipation in the mother undoubtedly results in a constipated child. Just why this is so is uncertain, but there is abundant clinical evidence that such is the case. Errors in the mother's diet, lack of proper exercise and various pathological conditions in the pelvis or perineum following labor may be factors in the constipation of the mother.

In artificially fed children the great variety of methods of feeding make many more possibilities of constipation from dietary errors than in the breast fed. There are certain errors in diet which are especially likely to result in constipation.

Fat constipation or constipation which results from the feeding of milk with high percentage of cream is often observed. Since the pendulum in infant feeding has swung from the feeding of top milk mixtures or milk and cream mixtures to the simple dilution of whole milk this type of constipation has been much less. The stools in this type are easily recognized. They are light colored, of a putty like consistency, have a foul smell and roll off the diaper without staining it. Simple dilutions of whole milk have a low fat content and seldom show this sort of a stool. It often appears where cream mixtures containing a higher percentage of fat are fed.

A mixture containing a low sugar percentage often produces constipation. The kind of sugar makes a great difference. Malt sugar modifications are much more laxative than those made with sugar of milk. Dennett gives it as a rule of thumb that a baby up to ten pounds in weight should have an ounce of sugar a day and over ten pounds an ounce and a half. Too much sugar may result in gastric disturbance or diarrhea, so that each baby's sugar tolerance must be carefully tried out.

An insufficient amount of water may be a factor in constipation. If a baby is taking a concentrated milk mixture one should make sure that the baby is given water between meals. It is surprising sometimes to observe the beneficial effect of an increased amount of water.

Boiling milk has become a common practice in cities and communities where certified milk is not obtainable. This procedure has many advantages. Boiling destroys tubercle bacilli and all other bacteria. It also makes the milk more digestible. The curd caused by the action of the gastric juice on the milk is much smaller and not so tough. Brenneman's work on the character of the curds has been of great value. But feeding the infant on sterilized milk sometimes does result in constipation. I think that

the danger from this cause has been overestimated and that boiled milk when properly modified is not likely to produce this result. Still, one must consider this possibility in trying to determine the cause of this condition.

To recapitulate the more common causes of constipation in infancy we may mention the abuse of cathartics, gastric indigestion, insufficient food ingestion, fissure, constipation in the mother, too much fat, too little sugar, too little water, and boiled milk. There are other things that may produce this condition but if one will bear in mind these, he will not be likely to overlook the cause.

The treatment of this condition is usually suggested by a careful consideration of the cause. The indiscriminate use of cathartics by both the profession and the laity is to be condemned. Telling the mother to give a baby a dose of castor oil or calomel will not cure constipation. The mother should be warned against the use of the various proprietary cathartic remedies which are so widely used. In almost every house where there is a baby the question is asked what kind of physic is best for the baby. In many cases the administration of a physic is a part of the routine of the baby's care at night. Mothers should be given the advice that no kind of physic is best for continuous administration and that other measures are much more useful in the cure of constipation.

Gastric indigestion due to improper habits of feeding is as a rule easily remedied. The mother who feeds her baby when it cries and lets it sleep when it wishes is heading for trouble. This brings up the question of the proper interval for infant feeding. Up to the age of five or six months the three hour interval seems to work best. After this age the four hour interval can be substituted. Irregularity in feeding at night is a common fault in mothers. For the young infant two night feedings are enough. After the first two months the child should go from ten at night until six in the morning with only one feeding. After five or six months the night feeding should be omitted. The common practice of letting the baby sleep with the mother almost always results in frequent and irregular feeding at night. This practice cannot be too strongly condemned.

Constipation due to insufficient food is remedied by giving more food. In the bottle fed it is a simple matter to compute the requirements of the child and to know whether or not they are being met in feeding. In nursing babies the matter is not so simple. If the baby does

not vomit and if the stools are small and the baby is not gaining properly the trouble is ordinarily with the quantity of milk rather than the quality. In these cases supplementary feedings are indicated. Before or after each nursing the baby may be given an ounce or more of a mixture of half milk and half water with a suitable addition of a malt sugar. This is very much better than the common practice of weaning the baby on account of insufficient mother's milk. In some cases the giving of an ounce of malted milk or malt sugar mixture two or three times a day before nursing will relieve constipation.

Constipation in the mother is a condition that is often overlooked in the management of a constipated nursing. This condition is best corrected by a coarse diet, plenty of fruit and a proper amount of exercise. When the condition is not relieved by such measures the mother may be given small doses of cascara three times a day before meals.

Fat constipation is a condition which is frequently seen in babies who have been overfed with cow's milk. They have usually gained rapidly in weight for a time; they become fretful; the weight becomes stationary; and the stools are dry and white and can be rolled off the diaper without staining it. The odor of the stool is very offensive. In severe cases the best treatment for this condition is the immediate withdrawal of all fat and the giving of skimmed milk with malt sugar or malt extract. If a diluent is used oatmeal gruel or barley gruel is good. The fat is gradually returned by substituting each day one ounce of the whole milk for one of skimmed milk. In less urgent cases the entire withdrawal of fat is unnecessary, the condition being met by a reduction in the fat percentage.

Constipation is often seen in children who are fed milk and water without the addition of sugar or milk modifications with insufficient sugar. The addition of a sufficient amount of malt sugar or malt extract will often entirely relieve this condition. In adding the sugar it is well to increase the amount gradually rather than to try to give the desired amount at first. A teaspoonful may be added daily to the twenty-four hour feeding until the requisite amount is reached. In children five or six months of age cereal gruels may well be added and these have laxative value. Children after the first six months who are bottle fed do well on the addition of some variety to the milk diet. We have just now mentioned the cereal gruels. Fresh fruit juice is of undoubted value not only

for its laxative action but also in the prevention of scurvy. Where boiled milk is used it is well to begin with a small amount of orange juice at an earlier age. Older infants may have meat juices and broths. Scraped raw apple or baked apples may have a very beneficial action in increasing intestinal elimination. Vegetables thoroughly cooked and thoroughly mashed or shredded may be used. Bottle fed children do much better on the addition of such foods than on too large quantities of milk. Babies seldom take more than a pint and a half of milk a day and keep well.

From this discussion it is apparent that in the writer's opinion the dietary treatment is the important factor in the management of these cases. Another important factor is habit. As in adults, this may be of great value in avoiding constipation. As early as possible the infant should be trained to use a vessel or nursery chair. The child should be placed on the vessel or chair soon after the feeding, when peristalsis is most likely to be vigorous. In this connection one may mention the value of abdominal massage in stimulating peristalsis. The early establishment of a regular habit of the daily stool is a most gratifying method of avoiding constipation in the young child.

The question of how long the child should be allowed to go without a bowel movement must be determined in each case. Some children may go forty-eight hours and have a large normal bowel movement with no discomfort. In general I think that both the mother and the physician are too ready to interfere if elimination seems to be delayed. In young children a simple enema of warm water given with a bulb syringe is usually sufficient to produce a bowel movement. But frequent repetition of this procedure causes the child to wait for the stimulation of the rectum before it will try to have a stool. Suppositories of glycerine or soap have the same objection and if used over too long a time may cause irritation of the rectum.

The use of milk of magnesia in small doses seems to be the best procedure where some cathartic is needed. For the bottle fed a half teaspoonful or more may be put into the evening feeding and usually will produce a free movement without griping or straining. Cascara and senna are frequently used but in my judgment they are seldom required in the treatment of ordinary constipation. Castor oil for this purpose is to be condemned.

In conclusion it may be said that the question of constipation in infants is primarily a ques-

tion of proper feeding. Laxatives and enemata will not often be required if the right kind of food is given in proper amount and at proper intervals.

THE THERAPEUTIC APPLICATION OF OVARIAN EXTRACT.*

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There is no more fertile, no more interesting field in research medicine than the domain of the internal secretions. The physiology of the endocrine glands covers the entire plane of internal medicine. The different members of the internal secretory system are closely linked to each other as well as to the other organs of the body. It would be interesting, no doubt, to trace out this close relationship that each gland with an internal secretion has to the other members of the endocrine family but that is a subject in itself and time will not permit. The fact should be remembered, however, when any one member is up for discussion that hyper- or hypo-function of any gland, possessing an internal secretion, always has its effect upon the other members of the family.

The member of the endocrine group that will be discussed at this time, is, as announced by the title of this paper, the ovary. It will be necessary, in order to bring out a rational therapeutics of ovarian extract to review somewhat at length, the anatomy and the physiology of the ovary. The ovary is a densely fibrous organ, situated in the pelvis on the posterior surface of the broad ligament in a shallow pouch—the "fossa ovarica." It is about 40 millimeters long, 20 millimeters wide and about 10 millimeters thick. It weighs about 5 gm. It might be stated here parenthetically that the ovary possesses two secretions, an external which is manifested by giving off of the ova and an internal or the pouring into the blood of a hormone. It is the latter, the internal secretion, that forms the basis of this article. The ovary itself may be divided for our consideration into three parts, divisions that should be borne in mind during the later discussion, on this subject. These three divisions are the follicle apparatus, the yellow body or corpus luteum and the so-called interstitial gland. Before taking up these separate divisions, mention might be made of the enormous amount of literature on the subject of the glands with an internal secretion. Biedl in his book on the

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internal secretions gives the literature up to 1911 and has about 7,500 references. In his later edition he has added about 1,200 more. It will be seen, although not all the references are upon the ovary as a gland with an internal secretion, that an enormous amount of work has been done and is still being done upon the endocrine glands. But I am wandering far afield and must come back to the consideration of the different divisions of the ovary mentioned above. The ovarian follicle is perhaps so well known as to need no minute description and it really does not enter into this discussion until after it has ruptured and expelled the ovum. The cavity left after this expulsion fills with blood and there is formed the so-called corpus hæmorrhagieum. This blood clot organizes contracts and in its mesh work, cells are formed or enter from the membrane granulosa. By the disposition of the yellow coloring matter or lutein in these cells, the yellow body or corpus luteum is formed. This yellow body persists in the non-pregnant female until the next ovulation or about three weeks. In the pregnant woman, the corpus luteum verum usually last about five months but otherwise differs in no way from the corpus luteum spuriosum or false corpus luteum. To repeat lest there be some confusion arising from a misinterpretation of these terms, there is no difference except perhaps of degree, between the corpus luteum of the menses, called the corpus luteum spuriosum, false corpus luteum or corpus luteum menstruationis and the corpus luteum of pregnancy, called the corpus luteum verum, true corpus luteum or corpus luteum gravidis. These terms are all used and the thing to remember is that the difference is one of degree, not of kind. The interstitial gland or the third division is not so well understood and much work is yet to be done before its accurate formation, origin and function are determined.

It is supposed that it arises from an incomplete primordial follicle, in other words from atresic follicles or follicles that have not reached their full and complete development. Bearing in mind this somewhat superficial description of these three divisions of the ovary, it is next obligatory that an explanation and application be made as to the function of each, in the female body economy. But at the same time it should be remembered that these three divisions i. e. the follicular apparatus, the corpus luteum and the interstitial gland, do not have their functions sharply defined, the one from the other, and at times they all work together in perfect

harmony in carrying out the internal secretory power of the ovary.

Some one has said "*Mulier propter ovarium est, quod est.*" It is the consensus of opinion now, that it is not a nervous influence but chemical substances, hormones, if you will, which cause the deep changes in the female organism. This fact has been proved by the results of ovarian transplantation. But whether the ovarian hormone is produced in the follicle in the corpus luteum or in the interstitial gland is at present uncertain. But certain it is that the internal secretion of the ovaries brings about a protective influence upon the development of the sexual peculiarities of women. In fact it must be admitted that even in the prepubertal period of development in young girls, characteristic body and psychical signs are present, which differentiate in a marked way, the female sex from individuals of the male sex of the same age. Further that the ovary possesses an internal secretion even before puberty. For these phases the follicular apparatus and the interstitial gland can only be considered. But with puberty there comes a change in the cyclical life of the female, which is shown objectively by the appearances of the menses. The most important cause of the cyclical appearing menses is to be found in the ovary, for by its removal at operation, by its atrophy at the menopause or by its destruction by disease, the menses stop. In the ovary, at regular intervals two morphologic and periodic changes occur, the ripening of the follicle and the formation of the corpus luteum. According to the investigations of Leopold and his associates, the idea was prevalent, that all processes, at the time of the menses, come with the bursting of the follicles, but this has been modified somewhat. Fraenkel, after a series of histological and clinical investigations, came to the conclusion, that the menses are ushered in, not by the ripening follicle i. e. ovulation but by the corpus luteum, and that the menstruation begins at that moment in which the yellow body has reached its full development. Exact histological studies upon the different phases of the development of the corpus luteum by several German research workers have proved that, not as was formerly supposed, the menses started with the bursting of the ripened follicle i. e. menstruation and ovulation occur synchronously, but that ovulation occurs in the interval, ca. ten days before the menses are ushered in. Then a corpus luteum is formed in the cavity of the ruptured follicle, which yellow body, when it has reached its full development, ushers

in the menses by means of a hormone that it, the corpus luteum secretes. So that the former statement, without ovulation, no menses, must be modified to read, without ovulation, no corpus luteum formation, without a corpus luteum, no menses.

Besides this power of causing the appearance of the menses, the corpus luteum has another power, that is to promote the ripening of the ovum and to prepare the uterine mucosa for the reception of the fertilized ovum. To speak for the moment chronologically this is what happens every month during the life of the female from puberty to the menopause. A follicle ripens and at its full development bursts and discharges the ovum into the abdominal cavity. This is ovulation. In the cavity of the follicle a corpus luteum is formed that at its full development ushers in the menses. Then the corpus luteum begins to degenerate even before the menses stop. Certainly by the end of the second week the corpus luteum will have taken an hyaline appearance and the so-called corpus albicans is formed. Soon or in a few days another follicle starts to ripen and the above process is repeated.

If the discharged ovum become fertilized, then the corpus luteum formed does not usher in the menses, but prepares the uterine mucosa for the reception of the fertilized ovum and aids in the formation of the decidua and placenta. This has been most admirably demonstrated by the researches of Leo Loeb. He could show that the development of the decidua is dependent upon the presence and function of the corpus luteum. He was successful, in guinea pigs and rabbits, by external stimuli, such as scarification of the uterine mucosa, by the placing of a glass rod in the uterus, etc. in producing a formation of an artificial decidua, providing a yellow body was present in the ovary. Loeb explained the mechanism in this manner, that a hormone is produced in the corpus luteum which renders the uterus sensitive. The premenstrual swelling of the mucosa, which histologically bears a great resemblance to the true decidua, takes place through the action of the false corpus luteum or corpus luteum spuriosum. With cessation of the function of the corpus luteum, and the entrance of the menses, the beginning decidua retrogrades and disappears. If the ovum is fertilized, then the corpus luteum remains longer in action and the decidua develops and later the placenta.

The function of the corpus luteum verum or true corpus luteum does not continue through the entire pregnancy. According to the care-

ful and painstaking investigations of Seitz, the atrophy and retrogressive change of the corpus luteum of pregnancy begins slowly, probably about the middle of the third or beginning of the fourth month. In the later months, the degeneration increases to such a degree from distention and enlargement, that at the end of pregnancy, no trace of the former yellow body can be made out except perhaps the resulting hyaline scar.

After the fourth month of pregnancy, when the corpus luteum ceases to functionate, it is supposed that its work is taken up by the interstitial gland which has no doubt been formed to take up the work of the corpus luteum, even before the latter has ceased to functionate. The interstitial gland of the ovary is supposed, according to the two French investigators, Bouin and Limon, who first discovered and described this gland, to spring from atresic degenerating follicles. It is according to some not developed in the same way in all animals nor at the same time in the same animal, is its period of development the same. It is, however, agreed by all, that the most complete development is during the latter months of pregnancy. The small, faint, thin spindle shaped cells of the theca interna of an atresic follicle becomes thicker, larger, more voluminous, oval or pointed, their protoplasm contains many fat droplets and often shows a light yellow color. From the lutein like characteristics, they are called theca-lutein cells. These cells, arranged radially and longitudinally in ornate groups, surround the still preserved follicle space with a broad band of cells containing fat. It has also been observed that the older the pregnancy, the better developed is the interstitial gland. This gland is well developed in the hydatid mole, which as is well known arises from a proliferation of the syncytial and of the Langshans cells. It is also found in the chorio-epithelioma.

Seitz, who has reported at length on the internal secretion of the ovary, in a monograph read before the 15th German Gynecological Congress upon the relation of all the endocrine glands to pregnancy, comes to the following conclusions, as regards the ovary.

1. The internal secretion of the ovary plays an important part in determining the sexual characteristics of the female.

2. The corpus luteum ushers in the menses and prepares the uterine mucosa for the reception of the fertilized ovum.

3. It is important to note whether, in women who are prone to abortion, the fault does not

lie in imperfect development of the corpus luteum.

4. The function of the corpus luteum comes to end in the first third of the pregnancy.

5. In the later months of pregnancy there develops an organ called the interstitial gland which takes up the work of the corpus luteum.

It must be remembered in this somewhat hasty review of the anatomy and physiology of the internal secretory apparatus of the ovary, that no attempt has been made to treat the subject exhaustively. The desire is to simply pave the way for the more practical part of the paper, as indicated by its title.

While many investigators have been much occupied with the physiology of the ovary as an internal secretory organ, almost all have, more or less been working to obtain the active principle, as has been done in some of the other endocrine glands, e. g. the adrenals. This question has been attacked in many ways with about as many varying results. Up to most recent times, the ovary has failed to yield the active principle of its internal secretion. The writer has been more or less active in this work for the last eight years and only recently has he met with any success. In fact up to the present time practically no results have been obtained therapeutically, except with the desiccated products. The first step was to prepare the whole ovary by careful handling and administer it as a dried product. Next the corpora lutea were separated and dried at body temperature and given in capsules of 5 grains, one-half to one hour before meals. During the last year a water soluble powder was obtained from the corpus luteum, and as far as we have been able to judge, this will be a great advance in the determination of the chemical contents of the active principle of the ovary or the corpus luteum.

The long and laborious processes by which this is accomplished will not be discussed here as most of you are more anxious to hear the indications for its use in every day practical medicine.

The most common condition in which some form of ovarian material may be used, is the troublesome symptoms of the menopause, either artificial or natural. The usual complaints are flashes of heat or cold, insomnia, nervousness, etc. It is surprising what alleviation of these troublesome and unpleasant disorders can be accomplished by the use of desiccated corpus luteum, properly administered. A report of research cases will be found in another paper, written some years ago. One great advantage

in this medication, is that it does not do any harm if no relief is accomplished. As far as can be learned from the use of soluble product, relief may be obtained in less time, with fewer doses and a relief that will be more permanent than with the dried gland. Perhaps the action of the gastric juices has some effect upon the efficiency of the product. At all events it is always better to use the active principle, where it can be obtained, than to trust to the action of the entire gland with its varying amount of inert substances.

From what was said above about the function of the corpus luteum being able to usher in the menses, the use of either the desiccated product or the soluble extract is often productive of good results in amenorrhea or in scanty menstruation. Seitz working with the corpora lutea of beef ovaries was able to isolate two antagonistic bodies which he called luteo lipoid and lipamin. The former was found, by animal experiment and clinical observations, to possess blood inhibiting characteristics and subcutaneously injected before and during the menses, to lessen the flow and shorten it. The second body, lipamin, a lipoproteid and a lecithin albumin, causes an increased growth of the external and internal genitalia in animals. In women, by subcutaneous injection, it will cause the menses to appear in amenorrhea. If the results of Seitz are correct as regards these two antagonistic bodies found side by side, so to speak, in the corpus luteum, it is no wonder that many times no clinical results are obtained when the entire gland is administered. Seitz explains the presence of these two bodies, possessing this antagonistic action in this way. Both these substances, luteo-lipoid and lipamin, are present in the corpus luteum, but at different times and in different amounts. In the young corpus luteum, the lipamin has the upper hand and the flow appears. Later the luteo-lipoid is present in larger amounts in the corpus luteum and the menses stop. If this assumption is correct, then it must follow, that in the young corpus luteum there is more lipamin and in the older gland more luteo-lipoid. This was proved by Seitz and his co-workers by histo-chemical and by quantitative chemical methods. Hence in order that the menses may appear regularly, be of proper duration, and that the loss of blood may be of the proper amount, it is necessary that the time and quantity balance of these two bodies be correct. All this goes to show that until the active principle or active principles, if you will, of the internal secretion of the ovary are iso-

lated beyond peradventure of a doubt, that its therapeutic use will be more or less problematical.

Before summing up the therapeutic possibilities of the ovarian secretion, a moment will be taken to give you an abstract of case that occurred at the Maine Agricultural Experiment Station at Orono, Maine. This case was reported by Pearl and Surface under the title "The assumption of male secondary characteristics by a cow with cystic degeneration of the ovaries." A pure bred Ayrshire cow had produced three calves in September, 1909, in September, 1910 and February, 1912. After March, 1913, the cow never gave any milk. The udder rapidly shrunk to a very small size and the animal began to show the external characteristics of a bull. After a lapse of eight months the general external facies and the behavior of the cow were like those of a bull to a remarkable degree. If the cow had been so screened that only her fore-quarters and neck were visible, any observer would have pronounced her a male, without question. The cow was killed February 18, 1914. Autopsy showed as the only gross abnormally a simple cystic condition of the ovaries. But, and here is a most important point, histo- and cytologically these cystic ovaries differed from the normal cow's ovary in but one essential point, namely, that they had no corpora lutea. In summing up this case, the reporters present the following:

1. This cow had been a perfectly normal female and had performed all the reproductive functions, both primary and secondary of the sex.

2. It later assumed certain of the secondary characteristics of the male, both in respect of structure and behavior with perfect definiteness, and so far as the character concerned goes, completeness. The change was like that following the castration and transplantation of gonads.

3. The gonads of this animal, examined subsequently, were exactly like those of a normal cow, save in one respect, that the follicles were not breaking and discharging ova, but were forming follicular cysts or becoming atresic and because of this no corpora lutea were formed.

This case shows that in the animal, a lack of corpora lutea formation, the female assumes the characteristics of the male. Perhaps here is another possibility for the therapeutic application of some form of the ovarian secretion in the human body.

In conclusion, perhaps it will be only necessary to mention some of the possibilities of the

active principles of the ovary, when it is isolated in a pure form. Certain it is that the ingestion of the dried gland per ora is not without its objections. For can we be certain that, in whatever form given, the gastric juice does not alter or render it inert. So that, whether we try to alleviate the troublesome and unpleasant symptoms of the artificial or natural menopause, whether to cause the menses to reappear in amenorrhea, we must be sure that we are giving the internal secretion of the ovary in its proper form, at the proper time, and in the proper amount.

The question of infantile genitalia, of hyperemesis, of the correction of abortion, may be helped, bettered or even cured by treatment with ovarian secretion but this form must be worked out before any accurate data can be given. Also the question of interdependence or interrelation of the different endocrine glands must be studied in order to combat over function or hyperfunction of any of its members. It is comparatively easy, to prescribe for a lessened or hypofunction of the ovary, for example, but suppose for instance that the ovary is producing its internal secretion in too large amounts. It would, of course, be suicidal to give ovarian extract in any form. It would only aggravate the condition present. This is only one of the many problems that confront the research worker, who is busy with the internal secretions of the different members of the endocrine series.

BIBLIOGRAPHY.

- Biedl, A.: *Innere Sekretion* (1st. and 2nd. editions, 1911 and 1913). (This author gives a more or less complete bibliography, up to years mentioned above.)
- Corner, G. W.: The corpus luteum, as it is in swine. 1915. Pub. No. 222 *Carnegie Inst. Wash.*
- Fraenkel L.: Zur Funktion des corpus Luteum. *Arch. f. Gyn.*, 1903, LXVIII, 483.
- Hermann, E.: Zur chemie des Ovars und des Corpus Luteum. *Verhandl. d. Deutsch. gynaek. Gesellsch.*, 1913, XV. II. 258, also *Zentral. f. Gyn.*, 1913, XXXVII, 843.
- Herrmann, E.: Zur. Physiologie des Corpus Luteum. *Verhandl. der Deutsch. Naturforschert.*, 1913, also *Zentral. f. Gyn.*, 1913, XXXVII, 1563.
- Herrmann, E.: Ueber eine Wirksame Substanz im Eierstocke und in der Placenta. *Monatsch. für Geburts. und Gyn.*, 1915, XLI-1-1.
- Leopold et al.: Neuer Beitrag zur Lehre von der Menstruation und Ovulation. *Arch. f. Gyn.*, 1907, LXXXIII, 566.
- Loeb, Leo.: The experimental production of the material placenta and the function of the corpus luteum. *Jour. A.M.A.*, 1909, XLIII, 1471.
- Pearl and Surface: A case of assumption of male secondary sex characters by a cow.

Ann. Rep. Maine Agricul. Exper. Station, 1915, XLI, *Sex Studies*, VII, 615.

Seitz. L.: Störungen der inneren Sekretion in ihrer Beziehung zur Schwangerschaft usw. Leipzig, 1913, 193.

Seitz. L.: Ueber die biologische Funktion des Corpus Luteum, usw. *Muench. Med. Wochens.*, 1914, LXI, 1657 and 1734.

SINUSITIS—ACUTE AND CHRONIC

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In the lower animals where great dependence is placed upon the sense of smell, the nasal accessory sinuses reach a high state of development. In man, however, as this sense has become less and less necessary, these cells having gradually become closed off until in most instances the communication with the nose has been reduced to very small openings or ostia. It is very apparent therefore that inflammations of these sinuses becomes a very serious matter and that the severity of the pathological condition will, in large measure, depend upon the lack of drainage from these cells into the nose. In cases of sinusitis having large openings into the nose there will be an absence of the pressure symptoms and many of these cases will recover without treatment. These cases, however, having only small openings and these openings possibly closed by a swollen mucous membrane, may require the use of drugs such as adrenalin and cocaine or even surgical measures to secure the necessary drainage and ventilation of these cavities.

The keynote to the successful management of all these cases is "drainage" and our degree of success in every case will be largely in proportion to the efficiency of this measure. The etiology of sinusitis can be conveniently divided into constitutional and local. The constitutional causes are usually either syphilis or tuberculosis. Gummatous inflammations in these regions are not at all unusual and naturally must have constitutional treatment. Local measures are as a rule palliative only. Surgery has no place in these cases dependent upon syphilis and when inadvertently used frequently adds to the patients suffering and the tissues may be permanently damaged by such unfortunate treatment.

Tuberculosis is a very infrequent etiologic factor but when present must have both local and constitutional treatment.

Sinusitis may be caused by extension of the inflammatory process from contiguous ana-

tomical structures including the teeth, hard palate and outer wall of the nose.

You are all familiar with the frequency of infection of the maxillary antrum from carious teeth and this may take place through a carious fistula or by way of the blood-vessels or lymphatics.

Intranasal malformations such as deflected septum, enlarged or cystic middle turbinate or any other deformity causing obstruction to sinus openings may be the direct cause of sinusitis.

Inflammatory reactions following operations upon the nose may be the exciting cause. Nasal tamponing has been responsible for many cases and when used should be removed as early as possible always bearing in mind that drainage of the sinuses may become obstructed causing decomposition of secretions that cannot escape. Micro-organisms of course play an important role in these cases, conspicuous amongst them being those causing exanthematous and other infectious fevers. Coryza is recognized as an early symptom of these diseases and its dependence upon these micro-organisms is well known. Of the bacteria most often found as a causative factor it has been claimed that the influenza bacillus holds first rank, the pneumococcus next, staphylococcus pyogenes aureus and albus and the streptococcus pyogenes. It is doubtful whether a pure culture will be found excepting in the beginning for after the defenses are broken down it is only a matter of a short while until it is a mixed infection. It has been claimed by some authors that in every case of influenza the sinuses become infected some time during its course.

The common cold or acute rhinitis is quite generally, even by the medical profession, looked upon as so inconsequential as to hardly merit serious attention or treatment. As an etiologic factor in its relation to inflammations of the nasal sinuses and otitis media there can be no question but that acute rhinitis is more frequently the cause of these inflammations than all other causes combined. Therefore the statement which I would ask you to remember even to the exclusion of everything else in this paper if necessary is "Beware of the ordinary cold in the head" for in it lurks possible complications and sequelae which may cause years of annoyance and suffering. In the virulent forms of infection acute inflammatory extensions into the nasal accessory sinuses, middle ear and mastoid may terminate fatally by means of meningitis or brain abscess. To further emphasize this statement I would say control the acute

rhinitis and a large majority of the cases of acute otitis media, mastoiditis, sinusitis and chronic rhinitis will not develop.

Sinusitis is a term which most general practitioners link up with the rhinologist and I fear in many cases pursue the subject no farther. In proof of this assertion I might mention a case of frontal sinusitis in my practice within the past year which had been in the hands of eight practitioners before coming to me. None had correctly diagnosed the case. At the time of my first examination of the boy, the symptoms of meningitis were well advanced. An operation was performed but the patient died about forty-eight hours later.

This boy suffered exposure at the time of the Ohio floods two years ago and contracted a severe cold for which he received no treatment until the sinus involvement reached alarming proportions. Then it was too late and the operation was performed simply as a measure of last resort.

A knowledge of the symptomatology and care in making diagnosis is necessary in the successful management in these cases.

Subjective Symptoms.—Headache is one of the commonest symptoms of sinusitis but because of its frequency in other disturbances, especially eye-strain, it must be differentiated from the headaches due to other causes. Since ocular anomalies are the commonest causes of headache I shall limit my differential diagnosis to these headaches as distinguished from headache of sinusitis.

Patients suffering from eye-strain usually start the day in good condition without headache. Continuous use of the eyes, however, brings on the pain in the head and this usually becomes more intense as the visual effort continues. Moreover the pain from eye-strain is usually bilateral. Another ocular condition which I believe to be frequently overlooked as a causative factor in headaches is the condition of granulated lids. Many people are going the rounds of jewelry stores and physicians wearing glasses and taking drugs with little or no permanent relief, who need only to have local treatment to their lids.

The pain of sinusitis is usually unilateral though if very intense at times becoming bilateral. The pain is usually in the region of the sinus involved except in the cases of sphenoid or posterior ethmoid when the pain is vaguely deep seated or described as being in the occipital or frontal regions. When the frontal is involved, pain is elicited on pressure on the floor of the sinus toward the median line. When the

anterior ethmoid is involved, pressure at the inner angle of the orbit gives rise to pain. The maxillary antrum is especially sensitive to pressure over the canine fossa. The subjective pain varies with the intensity of the inflammation, is usually worse at night and on rising in the morning. Redness, swelling and heat of the skin over the area affected are common symptoms in acute cases whereas in chronic cases these symptoms are seldom present. Giddiness and vertigo are frequently present and may be associated with momentary blurring of sight and a feeling of faintness. These symptoms and headache of sinus origin are usually aggravated by stooping forward or jarring of the body.

The intimate relation between the veins of the nose and accessory sinuses and of the eye shows how reasonable is the assumption that many ocular lesions heretofore attributed to auto-intoxication from the intestines, gonorrhoea, syphilis, and rheumatism may in many instances be due to an extension of the disease from the sinus to the ocular apparatus via the veins and lymphatics.

Auditory symptoms are not uncommon in sinusitis. Pus in the naso-pharynx may cause infection of the mucous membrane of the eustachian tube and middle ear with the possible result of middle ear catarrh or mastoiditis.

In addition to the foregoing symptomatology there are certain evidences and methods of examination which are valuable aids in making a diagnosis; pus in the nares; transillumination of skiagraphy.

Pus in the nasal chambers should always excite suspicion of sinus disease because the nasal mucosa alone is seldom the focal center of suppurative inflammation whereas the sinuses frequently are the source of such suppuration. Briefly stated, pus in the middle meatus usually has its source either in the frontal, anterior ethmoid, or maxillary sinuses, while pus coming from the upper meatus usually has its origin in the posterior ethmoid of phenoidal cells.

The accurate diagnosis of cells involved is largely a matter of exclusion and painstaking deductions. For instance, a case with pus in the middle meatus would indicate disease of either the maxillary antrum, frontal sinus or anterior ethmoids. Or it might indicate disease of a combination of any two or all three of the sinuses mentioned. On the other hand we must sometimes decide whether the maxillary sinus is actually involved in the sinusitis or whether it is simply a receptacle for the secretions of the sinuses higher up. The same may be said of the

anterior ethmoid into which may drain the secretion from the frontal. Or it may develop the ethmoid and antrum are both simply receptacles for discharge from the frontal.

When pus reappears in the nares immediately or within a few minutes after removal this is almost conclusive evidence of sinus disease.

As incidental to the foregoing remarks, the antrum or the ethmoid cells may contain pus and still not be involved in the sinusitis. The openings into the nose from these two sinuses is usually high up in their nasal wall so that the drainage from these cells does not occur until the cavities have filled up to the orifices.

Removal of the anterior portion of the middle turbinate is usually necessary in making this differential diagnosis. When this has been done, secretions from the frontal drain directly down into the nose instead of being directed backward into the ostei of the other sinuses. The best authorities are almost unanimous in the assertion that when frontal sinus disease exists the anterior ethmoids are similarly affected.

When pus is seen coming from the superior meatus we know that there is a sinusitis of either the posterior ethmoid cells or the sphenoid or possibly from both. The ostei to the cells are usually hidden from view by the middle turbinate bone and in making a diagnosis it often becomes necessary to remove the posterior half of this bone. Even then the openings are not always visible and much dependence has to be placed upon the probe. The openings into these sinuses are usually high up so that the cavities do not become drained until the pus reaches the height of the opening. We will assume that pus is seen exuding from the osteum of the sphenoid, the cannula is inserted and the cavity thoroughly washed out. The patient is placed in a recumbent position and as you will readily see this brings the point of drainage to the top of the cavity so that it would take a considerable time for sufficient pus to form to appear at the opening. After a half hour the patient is examined again and the absence of the pus in the nose would be very good evidence that the posterior ethmoid cells are not involved. The goal in all these cases is to trace the pus to its source and as you can readily see, in some cases it calls for a great deal of rhinological nicety. As a further aid to diagnosis "Transillumination" often furnishes us with valuable information. It is particularly of value in diseases of the maxillary antrum and frontal sinus; of no value at all in sphenoidal and posterior ethmoidal and of only questionable value in disease of the anterior ethmoid.

A dark room is necessary for this test, but if this cannot be had a dark cloth thrown over the head of patient and operator may be used.

For examining the antrum, a small powerful light is placed in the mouth in a median position and patient told to keep mouth closed. A comparison of the two sides of the face should then be made to observe whether the transillumination is equally bright at all points. If one antrum appears dark and the other light it is fair to suppose that there must be some affection on the dark antrum. Furthermore the transillumination of the pupil of the intra-orbital ridge and the patient's susceptibility to light are all points of value in making this test.

For testing the frontal sinuses a lamp emitting light from the end only is necessary. The end of this light is placed firmly against the floor of the frontal sinus near the inner angle of the orbit and careful observations made of the light and dark areas. The lamp is then placed in the same corresponding position under the other frontal sinus and comparisons made. If one side seems darker than the other it is presumed that the dark side is diseased. Of course this test is not of great diagnostic value when taken alone but used in conjunction with the other means of examination it furnishes what might be called strong circumstantial evidence. The X-ray was primarily used in rhinology to determine the size of the different sinuses but of late years has been employed also as a diagnostic agent in determining the presence of pathological conditions.

As with transillumination the X-ray has not yet thrown much light on the sphenoid and posterior ethmoid sinuses. It is of particular value in frontal sinus cases because the size and contour of these cells are plainly revealed giving valuable information as to what to expect when these cavities are opened. In fact it gives one a complete picture of the topography including the anomalies before the primary incision is made. The X-ray has become almost indispensable in determining whether disease exists in the frontal sinus. This test is reliable of course only in those cases in which the disease is unilateral. In ascertaining the exact pathological condition of the sinus the X-ray has not been so successful. It is often difficult to say whether the shadow is due to hyperplasia, or purulent secretion though in other cases polyp or granulation tissue are said to be clearly discernable.

X-ray findings in the ethmoid sinuses have proved to be very dependable and of great value

in diagnosis and in determining operative treatment.

In diseases of the maxillary antrum we are less dependent on the X-ray because of the efficiency of the other tests. However, what has been said about the frontal sinus applies here also and when operative measures are necessary it is wise to take advantage of all available information that by being fore-warned we may be fore-armed.

Treatment of sinusitis of course depends upon the cause.

In simple acute catarrhal sinusitis reduce the hyperemia and swelling by means of adrenalin and cocaine and the action of these drugs can be prolonged by following up with menthol and camphor in olive oil.

The ischemia resulting from this treatment gives immediate relief and this technic can be repeated several times a day.

Sinusitis dependent on nasal obstruction and deformities of course usually requires removal of these lesions. For the badly deflected septum submucous resection has practically supplanted all other methods. Evolution in the technic of this operation gives us much more assurance of success than when first advocated and as practiced by Freer. Perforation of the septum is about the only unpleasant sequel with which we have to contend and the frequency of this undesirable feature usually diminishes in proportion to our experience. However, if the operations have been otherwise successful in removing obstruction, relieving pressure of the septum upon adjacent tissues and re-establishing respiration through the nares, the presence of a perforation is of little moment as compared to the great benefit resulting to the patient.

Obstruction due to enlarged or cystic middle turbinate often causes sinusitis. After being cocaineized the nasal chambers should be thoroughly explored by means of a silver probe which can be bent as desired. The topography of the parts under normal conditions must be constantly before us that we may be enabled to make proper deductions and comparisons. If there is evidence of sinus disease and the middle turbinate on the affected side is found to be enlarged and in apposition to the outer wall of the nose it would be not only justifiable but wise to remove a part or all of this turbinate. By this procedure more of the field is brought into view assisting in the diagnosis and making the different ostei more accessible, while at the same time the all important drainage is greatly facilitated. In fact many cases of sinusitis require nothing more in the way

of treatment than removal of the middle turbinate.

In a paper of this general character no stereotyped rules can be laid down for the surgical management of these cases. There are so many variations in the etiology, and anatomical topography and *status quo* of the patients with sinusitis that each case is naturally a law unto itself and the treatment will depend entirely upon the conclusion of a careful differential diagnosis. However, in the acute cases a few general rules may be laid down for the medicinal care which are applicable in inflammation of any of the sinuses.

In the first place secure drainage and the best remedies we have for this purpose is adrenalin and cocaine, and it is to be used liberally adrenalin 1-8000, cocaine 2 per cent. Keep the patient warm and preferably in bed. Have him lie mostly on the unaffected side that the drainage from the sinuses may be facilitated by the influence of gravitation. Vaccine thereby has an important place in these cases and the stock vaccine is commonly used. As stated early in this paper if the infection started as a pure culture it soon becomes mixed and therefore some form of mixed vaccine therapy is indicated. Internally a free catharsis is indicated no matter how regular the bowel function may be. Rhinitis tablets may be safely used for the first forty-eight hours but should not be used indefinitely as they tend to interfere with the normal excretions and oftentimes only postpone or delay the natural course of the disease.

To recapitulate guard against the common cold and urge your patients to not neglect this ordinary affection. Keep in mind that a common cold should not last more than three weeks and when it has not cleared up in that time you are safe in assuming that you are dealing with some other pathological condition than a simple acute rhinitis. Try to trace the pus to its source, facilitate drainage and use vaccines. Surgical intervention is usually necessary in the chronic cases before a cure can be obtained but in these cases more deliberation can be exercised in making the diagnosis and outlining the surgical measures best adapted to each case. The acute cases may require surgical treatment also but this should be undertaken only by those who have especially qualified themselves to do this work.

I am not advocating the transfer of all these cases to the rhinologist but there are many danger zones in close proximity to the nose and its accessory sinuses and to do this work one

must be conscious of the anatomical and surgical limitations as well as a knowledge of what should be done.

A PLEA FOR A LARGER SURGICAL INSTINCT IN OBSTETRICS.*

EDWARD T. ABRAMS, A.M., M.D., F.A.C.S.

DOLLAR BAY, MICH.

The great bulk of obstetrical practice today is in the hands of the untrained and unskilled in surgical technic. I doubt if in any other branch of medical practice such a wide difference exists as does between the practice of the professors of the art, and that of the great body of general practitioners.

We all know, and are willing to admit, that to practice obstetrics as it ought to be, requires a correct and substantial knowledge of physiology, pathology and surgical technic. The old saying that childbirth is a physiological process is, but a half truth and like all such, is more dangerous and baneful than a plain incorrect statement. When we consider that one-half of all confinement cases are accompanied or followed by accidents or conditions that either directly or indirectly jeopardizes the life of the woman, or consigns her to the role of an invalid, we will begin to have some just conception of the responsibility one assumes when the parturient woman places herself in our hands.

Moreover, I do not hesitate to say, that the vast majority of such accidents and conditions are surgical in their nature and require a surgical trend of mind to properly deal with them; and still further, such accidents and conditions are not in the great majority of cases handled in the same manner and technic as similar ones in other portions of the body.

Nor do I have at this moment in mind such grave conditions as rupture of the uterus, or those grave cases of dystocia, requiring symphysiotomy or Cesarean section, etc., for they naturally and by common consent belong to the surgeon. I am referring to the ordinary run of obstetrical work.

Let us ask ourselves this question: "What constitutes a successful obstetrical case?" Is it one in which the child is born alive and free from injury; one in which the mother remains alive and after a non-febrile period of from two to three weeks is in apparently good health, so as to be about as usual, and anatomically free from such defects or injuries which may become the cause of future illness? Do we attain, gen-

erally, such success? I think not.. Our books on obstetrics are written by men who practice obstetrics alone, or gynecology and obstetrics, and whose experience comes not so much from private practice as from large maternities over which they preside. If you will revert back to your student days you will find that the great bulk of material in those maternities consisted of young healthy primipara. The patient remains under observation from ten days to two weeks, and the end results are seldom or never known by the attending obstetrician.

Now, manifestly, morbidity and mortality statistics must differ in the most essential points from those which are obtained in private general practice. The material in the latter instance is different. It is composed of both primipara and multipara, and the latter far exceed in number the former. We shall find in those latter a far greater number of conditions which will lead to the so-called auto infections of former days. A sterile uterine cavity, together with a plug of mucus in the cervix and the vaginal bacillus, is found in only the exceptional cases. If you will take the trouble to look over your cases you will find endometritis, in some form or other, very common. On one or both sides of the cervix you will find in the vast majority of cases large pus-discharging lacerations. And should a little more careful examination be made, gonorrheal infection, either pure or mixed, can easily be scented. Introduce your two fingers into the vagina and you will immediately encounter a relaxed inlet, easily inviting the ingress of virulent bacteria. About every third woman will give you a history of leucorrhea, and every second of abortion, either accidental or with malice of forethought.

The mortality, therefore, in the former is lower; 1st, because the material is much more favorable, and 2nd, because their mastery of antiseptics is by far much more complete, and carried out with much more thoroughness than is done in private general practice. Too often are we lead to exclaim, when discussing obstetrics, "women have had children since the world began, and the danger attendant is very little anyway."

Now, as a matter of fact, with all the advancement made along the general lines of medicine and surgery, in the very face of the reduced mortality of all surgical operations and the widespread diffusion of the knowledge of antiseptics and septicics—those most competent to judge claim that the mortality in childbed has not been reduced.

The morbidity statistics are well nigh value-

*Read before the Upper Peninsula Medical Society (Michtigan).

less, for in a large majority of cases they have referred only to puerperal fever that did not end in death. But are puerperal fevers the only condition that arise from the parturient act that demand our attention and consideration in the complete restoration of our patient to a normal condition? Certainly not. This is a matter that is not sufficiently emphasized in the daily work of the general practitioner. Every laceration of the cervix or of the vagina, every fragment of placenta tissue, however small, may be the source of immediate trouble, or lay the foundation of a long train of symptoms and conditions that will end in continued ill health, or complete invalidism.

Subinvolution, metritis, endometritis, endocervicitis, vaginal prolapse, together with cystocele and rectocele, and last but not least, prolapses of the uterus, either partial or complete, any or all of these may be the result of confinement, and may not manifest themselves until long after the parturient act.

If we look at the average confinement case in the light of possible morbidity, the dangers attendant may become enormous; and this will be far greater in private general practice than in hospital work, for the personal equation of the men in charge of the maternities, standing over against those in general practice, must and will be the determining factors.

It is a self-evident fact—a statement requiring no proof beyond its mere assertion—that all departures from the normal in obstetrical cases, either grave or minor, are surgical in their nature. We maintain that a case where the child is born alive, the mother passed the three weeks period of her convalescence, without fever sufficient to be termed puerperal, a laceration which does not extend down to the sphincter ani, is not necessarily a successfully conducted one.

We maintain that a woman has a right to expect and demand more than this from her accoucheur. She has a right to expect to be left in such a condition that she will not suffer in the future. She has a right to expect and demand a uterus emptied and well contracted; no large cervical tear, or should it exist, that it be sewed; pelvic floor intact, or if lacerated, repaired with complete continuity; of the vagina restored, and no infection. It will thus be seen that something more than a "little soap and water," and leaving the rest to nature, is required.

Let our women be educated up to the fact that "anyone" is not good enough to conduct a confinement case, and we shall see the disap-

pearance of the medieval midwife like snow before an April sun. Then and not until then will come the demand, born of a just appreciation, for men thoroughly trained in obstetrics; then and not until then will obstetrics be a specialty above the kindergarten conception of the term.

Let us take a given case: What, in the light of modern scientific procedure should be the mode of conduct?

1st. One should have a gynecological and general medical knowledge of the woman.

(a) Is there leucorrhoea? Is it gonorrhoeal?

(b) Does she have a large, relaxed vaginal outlet?

If the above conditions exist, then antiseptic as well as aseptic measures will have to be employed in the case. In other words, an effort must be made to separate the septic from the aseptic cases.

In the septic cases the patient must be prepared as for a vaginal operation. In the aseptic cases no vaginal disinfection should be attempted; examination must be made as infrequently as possible, but frequent enough to ascertain the progress being made. Abdominal palpitation should be relied upon in making the diagnosis of presentation and position, which should be made in every case. It is poor comfort for one to know that he has a face presentation after it has rotated to the hollow of the sacrum.

We do not believe that the second stage of labor should be allowed to continue too long. If progress is not being made we would apply the forceps without hesitation. We should not forget that prolonged labor produces shock and general depression, which in turn is conducive to lowered vitality and resistance, which favors the spread of infection.

In latter years we have always placed the patient upon a table when forceps were to be applied or version performed. It is well nigh incomprehensible how the proper technic can be otherwise carried out. In this way the perineum can be more easily and effectually protected, and should post-partum hemorrhage supervene it can be more easily controlled.

The placenta in each and every case should be inspected, and if any portion be found missing, the hand should be introduced into the uterus and the strayed portion removed. We are perfectly aware of the holy horror that will attend the uplifted hands of many at this statement, but the hand that is not fit to be introduced into parturient uterus, if need be, should be unceremoniously excluded from the lying-in-chamber. There are worse things to have in a

uterus than an aseptic hand, and this fact must not be lost sight of in all obstetrical work. Failure in this regard is a common cause of endometritis, hemorrhage, subinvolution and sepsis.

The genital canal must be inspected in every case. A superficial examination oftentimes shows an intact perineum so far as the skin union is concerned, when a complete separation of the vaginal tract would show extensive lacerations.

Then again, we shall meet with a form of laceration which in itself would not be classified as a tear. We refer to that peculiar condition not often recognized because unlooked for, viz: Where the perineal muscles give way during the expulsion of the head without a solution of the continuity of the tissue, whereby a tear can be ocularly demonstrated.

Large cervical tears should be sewed at once. All lacerations of the vagina should be sutured, and a most careful search made for lacerations of the pelvic floor.

If left untreated, the woman will be subject to rectocele, cytocele, and all the inconveniences which follow a relaxed vaginal outlet.

It is not considered within the province of this paper to discuss the comparative values of the different operative procedures, which become necessary in the different individual cases. Neither to recommend or describe the operations which may be necessary to restore the parturient woman to her normal condition; but rather to end as I began, with a plea for a larger surgical instinct in obstetrics.

There are many things that might be said of very great importance to the parturient woman, but they refer to her medical rather than her surgical treatment, and therefore do not properly fall within the scope of this paper.

If we are to judge from obstetrics as "she is practiced," then verily as a scientific branch of medicine it is a "lost art." Even the teachers of this branch teach it incidentally and rely on gynecology for their living. What man in this society today can afford to take obstetrical cases at ten dollars per, if it were not for the prestige in the family, neighborhood or community, that it gave him in getting other practice.

More than 90 per cent. of the physician's broken rest comes from his obstetrical engagements. Men grow prematurely old sitting by the bedside waiting for the "head to be born," or become rheumatic lying on three chairs, waiting to be called by old Mrs. Brown, when the head passes over the perineum. And while

we believe that the time has come when not only a plea but a demand should go up from the profession for a larger surgical instinct in obstetrics, let us not forget the fundamental cause of the present conditions. First, there is not enough attention paid to practical obstetrics; Second, the compensation is so very small that men cannot give the time and attention to those which they demand, if we are to pull them up out of the slough, mud and mire of mere midwifery.

Prof. Parvin, one of the best obstetricians this country ever boasted of, got for his highest fee \$100.00, after the bill had been sent back with the complaint of over-charge. The largest fee that we can learn of for obstetrical service was paid in New York—\$300.00 and \$10.00 per visit after.

When we as physicians place obstetrics upon a higher plane financially, then and not until then, will better work in this line be done. Then and not until then, will the general public realize that while "having a baby" is a physiological process, it is, nevertheless, attended and followed by pathological conditions which, in the vast majority of cases, lay the foundation for ill-health in after life.

CASE REPORT.

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That the case here reported was of such a peculiar nature and exhibited such a variety of peculiar and unusual symptoms is the only excuse for a detailed report.

Mr. A. L. B., a native American, age 63 years.

Family History.—One sister died of cancer of stomach, one of chronic stomach trouble—diagnosis not otherwise made—and a niece of cancer of breast and face.

Personal History.—Negative except about three years previous to present illness he suffered a paralysis of the left third facial nerve causing diplopia which cleared under anti-rheumatic treatment.

Present Trouble.—Sept. 29, 1914, he complained of cough which was worse at night and pain and tenderness in sixth and seventh left intercostal spaces; tires easily and had shortness of breath on slight exertion, appetite poor, sleep disturbed by cough, bowels constipated, temperature normal, pulse 72, respiration 24. Has had cough and pain for one month. Urine dark color, gave white band with Heller's test, microscope showed red blood cells but no casts. He had been losing weight and strength.

Oct. 7.—Urine cleared, he had pain in left arm,

dullness found at base of left chest, feels "all done out."

Oct. 12.—A tender lump found in axilla of left arm, veins in left arm and left side of neck were dilated and engorged.

Oct. 15. Left chest solid to the fourth rib. Left arm, face and neck swollen, blueish in color and painful. An exploratory aspiration of the chest was negative.

Oct. 23.—Dr. P. M. Hickey of Detroit took a radiogram which gave a solid shadow in all but a very small area at the apex of the left lung. The trachea and heart were pushed beyond the sternum to the right, otherwise right chest was apparently normal. The upper margin of the dark shadow did not change position with a change in the position of the patient and a diagnosis of a neoplasm of the left plura was suggested. The patient was quite exhausted by the trip to Detroit (a distance of 80 miles) and on reaching home was confined to bed until Nov. 6, when his cough was less and he could sit up a little.

Dec. 18.—His left chest was becoming more resonant in some areas but was still dull or solid in others. The swelling of left arm, face and neck was subsiding but the veins were still engorged.

Jan. 1, 1915.—He began complaining of pain in the right chest which was found dull at base. The veins in the left arm, which was considerably larger than its fellow, were now solid like whip cords.

Jan. 4.—An exploratory aspiration in right axillary line at sixth intercostal space was negative.

Jan. 5.—Mr. B. went to the University Hospital at Ann Arbor where he remained until Jan. 20. The following letter gives the findings at that clinic:

"Mr. L. B. was recently discharged from this clinic and showed the following:

"Laboratory examination was practically negative. The signs in his chest were those of old pleural thickening on the left at the base with emphysema and chronic bronchitis due to tension of the pleural bands. On the right there is a pleural effusion which was tapped several times. The pathology of this condition was not ascertained. At no time were tubercle bacilli or other organisms demonstrated in the numerous sputum examinations. There was nothing in the exudate to indicate the etiology. Wassermann examination was negative.

The treatment of the case is that of tuberculosis of the lungs, although the apices are not involved. This could well be tuberculosis. In our opinion it is not due to malignant disease in the pleura or lung. This is based upon the fact that the effusion is not bloody and the patient has no anemia or are there other evidences of a primary tumor. Prognosis is fairly good.

Jan. 24.—I aspirated about 2½ pints of clear straw-colored fluid from right chest, passing the needle at lower angle of the scapula. There was pain now on right side of head and neck, the right sterno-mastoid muscle being prominent and tender.

Jan. 31.—There was swelling of testicles, scrotum and penis with great pain in region of bladder. Urine was passed voluntarily and no residual urine was found on catheterization.

Feb. 7.—He complained of pain in stomach and vomited.

Feb. 9.—Had a severe pain in head after a nap and seemed dazed for a short time.

Feb. 12.—What appeared to be a typical facial erysipelas developed on bridge of nose and both cheeks but there was no elevation of the temperature and I may add here, that the temperature was never found to be above normal during the whole course of the case.

Feb. 28.—He complained of gripeing pains in the bowels. There was considerable tenderness in lower left abdomen where the skin was dark and mottled appearing and the underlying structures felt firm and resistant.

March 1.—This area was now bulging and very tender and a wave impact could be distinctly felt on percussion.

March 21.—Blood again appeared in the urine. There were many red cells but no casts. He also had an epistaxis in the morning and marked dyspnea.

March 31.—He had constant pain in abdomen and there was an oozing of blood from the glans penis. This seemed to come from the unbroken mucous membrane covering the glans.

April 2.—Dr. David Inglis saw the case in consultation but no satisfactory diagnosis was arrived at other than a progressive inflammation of the serous membrane with marked tendency to bleeding. Prognosis guarded but rather favorable.

April 4.—There was marked dizziness on changing position in bed and general muscular tenderness.

April 11.—There was a good deal of pain in both kidneys with bulging and a semi-fluctuating sensation to palpation.

April 16.—Abdomen was greatly distended with gas. Mind was cloudy, hallucinations with picking at bed clothes. (1 cc pituitrin relieved this distention).

April 22.—A loud musical pericardial friction rub was heard over the apex and was not transmitted with blood current. Pulse rate was now, for the first time 100 to 110, urine very scanty averaging about 10 oz. for the 24 hours.

May 7.—Abdomen very tender throughout but not distended.

May 14.—Pericardial pain was intense. There were large petechial spots, which were elevated, at tip of nose and other parts of face and neck; a pressure sore was developing over sacrum.

May 15.—He died at 9:00 p. m.

An autopsy was held May 16, at 6:30 a. m. Dr. H. A. Bishop assisting. Rigor mortis present. Body greatly emaciated. Thoracic and abdominal cavities were examined. Peritoneum dull, injected and lusterless. Intestines moderately distended with gas, no feces in small intestines, the colon contained several small fecal concretions. Sigmoid small and empty. The appendix was small, short, non-adherent and slightly clubbed. Great omentum short, puckered, thickened and friable. Stomach small and empty, pyloric end adherent to under surface of liver. Mass of adhesions at site of

Common duct closing it. Gall bladder moderately full, no gall stones found. Liver, spleen and pancreas apparently normal. Kidney small, soft, granular and mottled, surface studded with pinhead-sized nodules some white and some clear. *

Bladder contained about one ounce of urine, walls thickened, peritoneal surface covered with granulations and a fibrinous exudate which brushed away with sponge. No enlarged lymphatic glands nor tubercles discovered anywhere. Pericardium thickened, surface dull, contained no fluid. Heart about normal size, plaque of fibrinous deposit on anterior surface at apex size of dime. Post mortem blood clots in heart cavities. Valves normal. Organized blood clots (antemortem) adherent to endothelium vessels near the heart. Lungs did not collapse on opening chest cavity. Plurae greatly thickened throughout, was firmly adherent in some areas but not in others. In the nonadherent areas the plural cavities were filled with fluid. On the left side this fluid was clear, on the other chocolate colored. The cavities thus formed were lined with plura which was very tough—almost cartilaginous—bands of this extended across from lung surface to chest wall dividing the cavities into many connected compartments of irregular shape. In the left thorax the principal cavity was anterior while in the right it was posterior. Where the lung was adherent it required much force to free it and in doing so the lung tissue would tear and break down. This torn surface was dark colored with black tracings. The lung tissue was very heavy. The right kidney, some lung tissue with plura attached, a piece of omentum and clots from inside the large blood vessels were sent to Ann Arbor for microscopical examination.

Pathological Report:

"Dear Doctor:

"We received the autopsy material on Mr. A. L. B. which you so kindly sent to us and have the following pathological report on same.

"Chronic fibroid pneumonia, marked anthracosis, bone formation in the dense connective tissue of the lung, metastatic adenocarcinoma in the lung and bronchial lymph node. Considerable of this tumor suggests hypernephroma.

"Kidney.—Papilliferous adenoma in kidney cortex. Chronic pyelonephritis. Malignant hypernephroma."

In the clinical report of this case I have neglected to report the recession of the various symptoms stating only their appearance and degree of development and wish to add here that many of the manifestations disappeared as some other appeared or that they would merge the one into the other.

It is also of interest to note that no primary tumor was found either during life or at autopsy although careful search was made for one. It is to be regretted that more material was not submitted to a pathological examination to determine the extent of the dissemination of the malignancy.

A review of the symptoms involving as they did nearly all the anatomical structures of the body and a study of the pathology found suggests the possibility of a general systemic malignancy without a primary tumor.

Diagnosis of Female Disorders.—Manufacturers of "Uterine wafers," etc., often advise the use of their preparations without physical examination of the patient when patients are disinclined to submit to such physical examination on the chance that one of the asserted constituents of the proprietary may hit the cause of the trouble. In this connection the testimony of J. Clarence Webster, professor of Obstetrics and Diseases of Women in Rush Medical College, Chicago in the "Wine of Cardui" case is of interest: He was asked: "Is it necessary to make an examination of the female pelvis in order to determine the condition, the underlying cause of the condition and the treatment which is necessary?" He replied: "It is necessary. Because from symptoms one can rarely have any accurate idea of the pathological conditions in the body, in this part of the body. There are many symptoms which are common to different conditions and consequently it is necessary in analyzing a case to make a careful physical examination." Again, when asked "Can you determine, or can the conditions of the uterus, or pelvic organs be determined merely by attention to description of symptoms which a patient gives?" he replied "I cannot" (*Jour. A.M.A.*, April 22, 1916, p. 1337).

Controlled Clinical Trials.—At the "Cardui" trial which is now in progress, A. S. Loevenhart, Professor of Pharmacology and Toxicology at the University of Wisconsin, testified as to the conditions under which the clinical trial of a medicine would give results as certain as those yielded by the usual pharmacologic methods. Professor Loevenhart had testified that he preferred his students to be familiar with drugs the value of which had been clearly worked out by accurate clinical methods and shown to be useful in the treatment of disease. Asked as to the character of the clinical trials required to demonstrate the value of a drug, he held that there was no difference between a careful clinical test and a careful pharmacological test. Loevenhart explained that to determine if Wine of Cardui had the claimed action as experimenter would take a certain number of cases of amenorrhea, perhaps 50, and divide them into two sets; treat 25 with Wine of Cardui and the others without it and then make an estimate of the amount of the material passed at the time of the menstrual period. Such trials carried out in a hospital, where the physician receives his reports from nurses and is not obliged to depend on the statements of the patients, he explained, would be as reliable as a properly conducted pharmacologic experiment (*Jour. A.M.A.*, April 15, 1916, p. 1219).

TRANSACTIONS

OF THE

Clinical Society of the University of Michigan

Stated Meeting, April 5, 1916

The President, UDO J. WILE, M.D., in the Chair
Reported by REUBEN PETERSON, M.D., Secretary

DEMONSTRATION OF A CASE OF PHAGADENA.

UDO J. WILE, M.D.

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The case I wish to demonstrate is a most unusual complication of genital infection, a type we fortunately do not see very often any more but which at one time was exceedingly common. It is in no way a specific infection. It is a phagadema complicating a genital sore. By phagadema is meant a destructive, almost gangrenous process which advances with great rapidity. Bacteriologically it is due to a symbiosis of a number of very virulent organisms, associated with saprophytes. Phagadema, therefore, can complicate syphilitic chancre, and chancroid. A few cases of phagadema are on record complicating simple gonorrhea and not a few complicating a bite.

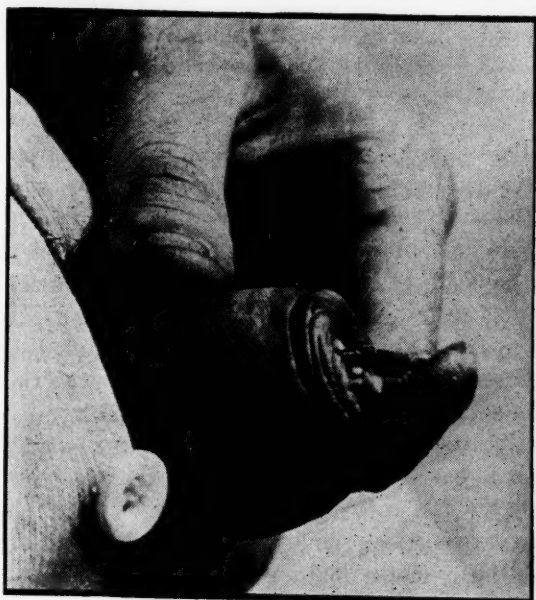
The question of etiology of phagadema always brings up the possibility of sexual perversion of one type or another. I saw within the last three months a case of extensive phagadema of the penis following a bite of the glans in which there was no syphilitic infection, and still another in which a chancre complicated the bite. The process usually progresses with great rapidity. The amount of destruction is extreme. Hemorrhage, indeed fatal hemorrhage, may occur from erosion of large vessels. In women, phagadema usually invades the thigh and in cases of complicated chancroid the entire anterior surface of the thigh may be involved in an extensive gangrenous slough.

The case which we present tonight (Figs. 1 and 2) is that of a man who exposed himself one month previous to his marriage which occurred two months ago. He denies, however,

that the intercourse was in any way unusual or perverted. After marriage he developed a sore on the foreskin which extended very rapidly. The sore progressed so that at the present time it has involved, as you will see by the photograph, and as I shall show you by the patient himself, the entire superior surface of the glans penis and has laid open the superior margin of the urethra. After the ulceration had extended as far as it had when he entered the Hospital, it was difficult to say what the man had besides phagadema, whether the underlying process was syphilis, chancroid or a single bite, or some other form of infection. However, there are two points to be considered in the differential diagnosis. One is the relative painlessness of this process when it is associated with syphilis. One would assume that such an extensive ulceration would give rise to excruciating pain, and it usually is so unless it accompanies a chancre. The second point of diagnostic importance is the amount of induration present. The anterior lip of the penis was firm and hard and the characteristic induration of the chancre remained. The proof of the nature of the process really was established by the man's wife who presented herself with a typical secondary syphilid of the vulva and an eruptive syphilid of the body. That confrontation, the wife having an ordinary syphilis, is the best proof that there is nothing specific in the syphilitic virus itself to produce phagadenic infection, and that such infection is a secondary one.

The results of treatment are strikingly favorable considering the amount of destruction which takes place. In this case I would say that it would be inconceivable for the patient to have a perfect result without a plastic operation because with the urethra laid bare as it is on the superior surface, scar tissue must

result, which will certainly result in stricture so that it may be necessary to produce in this patient an artificial hypospadias. He now has an artificial epispadias, as the meatus is about an inch away from the ulcerated part of the upper surface of the urethra. I hoped Dr. Loree would be here to discuss this phase of the case. It would seem to me that the stricture would



Chancre complicated with phagadene. Lateral view.

be too firm to dilate and, therefore, it would be necessary to make an artificial meatus.

As a complication one should consider the possible cystitis and ascending pyelonephritis which might occur. Such cases as this have even been mistaken for epithelioma and the entire penis occasionally has been amputated together with complete dissection of the lymph glands.

CASE 2. A case of sarcoma of the thigh treated by the X-ray, followed by general sarcomatosis.

This case is one of more than usual interest, I think, from many aspects, particularly from the aspect of the general surgeon and dermatologist. The patient whom I shall present in a moment, I was asked to see by Dr. Darling a year and a half ago. He had on the under surface of the right thigh a circular tumor, fungating, perfectly round, about the size of a pancake and five inches in diameter. It bled easily, was attached to the skin by a very thick pedicle, somewhat broader at the margin than at the base, of a peculiar bluish color where it was attached to the skin and extremely firmly attached to the underlying tissue. At that time I suggested that the case was either one of sarcoma or infective granuloma. The mass

had grown very rapidly and the question came up as to what form of surgical interference should be instituted. It seemed to me that if the tumor mass were a sarcoma then it was far too late to think of any surgical interference which could be of the slightest benefit. Amputation would have been the only possible operation which might have been thought of. A simple excision, of course, would have been useless, but amputation might have been carried out with every chance of a failure. On the other hand, if the lesion were an infective granuloma certainly one would not wish to amputate, and the danger of excising such a growth where the diagnosis was in doubt is obvious. I therefore recommended that the patient be given X-ray. He was X-rayed with the most satisfactory result so far as the original lesion was concerned. It completely disappeared and left a linear scar much as though an operation had been performed. One year and a few months later the diagnosis is substantiated by the appearance all over the body of metastatic nodules, dark purplish red in color, some of them colorless, varying in size from a grain of sand to the size of a large walnut, associated with a fairly



Chancre complicated by phagadene. Exposed dorsal surface of urethra shown near distal end.

marked cachexia and with the picture of general sarcomatosis.

General sarcomatosis of this type always presents itself in exactly this way as non ulcerative (in metastases) relatively painless tumors, being painful only where they are subjected to constant trauma and having a very grave prognosis. It is particularly interesting to note that the X-ray to-day if applied to any of these

tumors for one or two exposures, causes them to disappear but they reappear in a few days, and keep on coming.

Histologically these tumors are either the large or small round cell types, or they are of the angiosarcomatous type, being made up of blood spaces with the radiating sarcoma cells arranged around. In this particular type I felt that the tumor was an angiosarcoma because of the apparent vascularity of the tumor masses. However, I was incorrect in this. The microscopic picture shows it to be a very marked large, round cell sarcoma with beautiful kariokinesis.

This is not the only type of general sarcomatosis which occurs in the skin. One type is the idiopathic pigmented sarcoma or hemorrhagic sarcoma. This begins in the extremities, has a very marked racial distribution, occurring almost exclusively among the Galician Jews, and among men. There are about 100 cases on record. This racial distribution has been somewhat shaken in the past two or three years by the demonstration of this type of sarcoma in native-born Americans.

The tumors in the case before you vary in size from a grain of sand to a walnut. They are infiltrated into the skin above but are freely movable below. The back is one mass of these tumors. One would have great trouble in counting them. The patient feels perfectly well. The viscera are always involved later as well as the skin. One characteristic of this form of tumor is the frequent metastasis to the choroid and retina leading to very early disturbances in vision. That has not occurred in this case. The extremities seem to be somewhat more involved than the trunk, but the tumors extend all over. The X-ray plates of the lungs are absolutely clear.

DISCUSSION.

DR. HARRY B. SCHMIDT: You mentioned metastases into the choroid. Are there any in other organs?

DR. WILE: Yes, they metastasise everywhere in the body.

DR. HAROLD DE BLOIS BARSS: I had more or less charge of this patient while he was in the surgical ward last year. At the same time that he was given this X-ray treatment, we started a stiff course of Coley's serum. I wish to give our roentgenologist due credit for his work, still so many cases are on record of improvement in cases of sarcoma of this type that I think we should take this into consideration. It may have been the X-ray which did all the work, but we have had several cases in our own service and the literature mentions many cases in which excellent results are being obtained by the use of the serum. Dr. Darling has a similar case now

in private practice which he is treating with Coley's serum and he is getting at least temporary improvement. It would be interesting to find out whether Coley's serum in this case would affect the metastatic tumors.

DR. WILE: He has been given Coley's serum on the outside without any effect.

A CASE OF CONSTITUTIONAL SYPHILIS ASSOCIATED WITH AN HALLUCINATORY MENTAL STATE.

ARNOLD L. JACOBY, M.D.

(From the Psychiatric Clinic, University of Michigan, Ann Arbor, Michigan).

The separation of the mental disorders of syphilitic origin and those mental states associated with constitutional syphilis into various classes has gone hand in hand with our modern methods of examination, particularly the laboratory tests. These disorders, other than general paresis, have been variously classified by different writers. Kraepelin in the last edition of his psychiatry classifies these disturbances partly on the pathologic and partly on the clinical basis and our case this evening would probably fall into the group of cases which he calls syphilitic pseudoparalyses. This group is further subdivided into the cases of simple dementia, expansive forms, Korsakow-like forms and the delirious forms of which our case is an example.

This man, E. B. is 37 years of age, a Canadian by birth, single, a farmer by occupation, who has received a common school education. He was brought to the Hospital by his family because they noted an acute mental change in him a week previously. He said jungle animals were after his cattle and he prowled about at night with a shot gun after them. He said everything was charged with electricity and that he collected it all. He talked rationally at times but was often abstracted and at times his actions were bizarre.

His family history is of no interest. His past history, however, is of greater importance. As a child he was always rather delicate and apparently not of the same mental capacity as his brothers and sisters. After his school days he led a very purposeless life, following almost every sort of occupation from time to time. Ten dollars a week is said to have been his average wage, although his brothers did much better. His habits were extremely irregular. He contracted syphilis at 21, that is, sixteen years ago, and shortly after had a severe gonorrhea. There were rather mild secondaries and it would seem that he received mercury irregularly for about three years following his in-

fection. About ten years ago, while a member of the Printers' Union in Detroit, he was called out on a strike. He then expressed ideas that spies were after him and became much disturbed. The family then sent him to his home where he remained on the farm until his admission to the Hospital. At home it was noted that he acted unusual in that he did his work very irregularly. He often would not start the day's work until four in the afternoon and spent much time abstracted and in so-called "brooding." The family, although they noted these things, overlooked them until the sharp change which occurred just before admission. Upon admission he was completely disoriented and showed a marked retentive memory defect. His manner was consistently pleasant, always greeting us cheerily on each visit, but unable to recall ever having seen us before. He said he remembered having left his home in northern Michigan on a Sunday but he did not know how long ago Sunday was. He remembered the depot and he "guessed" the Hospital was the depot. He told us of voices talking to him but did not elaborate upon these. He was observed at times wandering about the ward nude and oblivious to his surroundings and occasionally was seen in an attitude of prayer.

His physical examination was negative, except for a slight enlargement of the liver. He was well formed and of average size. The pupils were unequal in size, and dilated, measuring about 5 millimeters and 6 millimeters. They were somewhat irregular and sluggish in their reaction to light. They reacted in accommodation normally. There were very prominent tremors about the mouth and of the tongue on protrusion, and a slight inequality was noted in retraction of the lips, the right side drawing back further than the left. The deep reflexes of the arms were very prompt. The right knee jerk was diminished, the left one absent and both Achilles were absent. There was a definite articulatory speech defect but elisions of syllables or words were not present. There was a loss of sense of position in the two middle toes of both feet with the loss of ability to localize touch in these same toes. There were no other sensory changes. The urine and the blood count were negative. The Wassermann on his blood was ++++. A lumbar puncture revealed two cells per cubic millimeter. Nonne-Apelt, Phase 1 Pure \pm , and with a dilution of two negative. Nissl-Esbach reaction showed the quantitative albumin to be .0175 per cent., which is within normal limits. Lange's col-

loidal gold test was negative and the Wassermann on the fluid was negative. The differential blood count showed 30 per cent. of mononuclears, 68 per cent. polynuclears, 1.6 per cent. eosinophiles and .4 per cent. mast cells.

After about three weeks in the Hospital, his mental condition began to improve and his memory returned, until now it is very difficult to demonstrate a memory defect. He was indifferent and mildly apathetic. He showed very little concern about his mental condition and frequently became very irritable when questioned. He felt that the experiences before coming to us needed no explanation, "they just happened like lots of other things in my life," and it was foolish and unnecessary for us to ask about them. It was noted at this time that he had no definite articulatory speech disturbance, although his voice was tremulous. Otherwise, the neurologic examination was the same as upon admission.

He was put upon salvarsan and mercury. There was a general physical improvement but there has been little change in his mental state recently. On the whole, he remains indifferent and apathetic, occasionally telling us of his particular attraction for electricity and cites many examples to prove his contention. He says that no explanation is necessary for this, it is simply a property peculiar to him. There is always a latent irritability, which shows itself when we attempt to question him more than he feels that we should. There is now no evidence, clinically, of any progressive organic deterioration. His attitude on the ward strongly suggests occasionally that he is hallucinating, but he will not tell us about it. A lumbar puncture done recently showed the pressure to be normal, 6 cells to the cubic millimeter, Nonne-Apelt Phase 1 Pure +, and in a dilution of two negative. The Nissl-Esbach estimation showed .04375 per cent. albumin which is very high. Wassermann negative. Unfortunately, the Lange test was not done. The left knee jerk, which was absent upon admission, can now be obtained upon re-enforcement, but the knee jerks are definitely unequal and the Achilles absent.

We must consider these definite neurologic findings as evidence of involvement of the central nervous system, either past or present. In view of the cerebrospinal fluid findings, which are practically negative except for an increase in the albumin content, it appears that there is an impairment of the central nervous system

and that the process is no longer an active one. Although the neurologic findings may suggest the presence of a tabes dorsalis, the laboratory findings do not bear out this conclusion unless we consider that a tabetic process has existed and has now become inactive.

Plaut in his monograph on the "Hallucinoses of the Syphilitic" (Monographien aus dem Gesamtgebiete der Neurologie und Psychiatrie Alzheimer and Lewandowsky, Heft 6) has classified these disturbances into acute and chronic forms. The acute forms are further subdivided into those occurring in secondary, tertiary, and in the late stages. These classes differ essentially in the time of appearance of the mental symptoms. This case may fall into the latter division. Two cases of this class are reported by Plaut who found positive Wassermanns on the blood, and no increase in the cell count of the cerebrospinal fluid in each. The Wassermann on the fluid was also negative in ordinary amounts, but positive in one case in increased amount.

The acute disturbance at the time of this man's admission to the Hospital was not unlike an hysterical dream state. Ilberg has reported a case (Ein Fall von Psychose bei Endarteritis luetica cerebri, *Zeitschr. f. d. Ges. Neurol. u. Psych* 2, 1 1910) of cerebrospinal lues of endarteritic type which showed many hysterical states throughout the course and at autopsy the specific endarteritic changes were demonstrated. During the second month of our patient's residence in the Hospital he was extremely suggestible and it was very easy to put him into light hypnosis.

The neurologic findings, memory and speech disturbance at first, together with the positive Wassermann on the blood, might make the diagnosis of general paresis seem very apparent. However, the cerebrospinal fluid findings and the course of his disease are very different from those of paresis and the prognosis is of course much better.

DISCUSSION.

DR. UDO J. WILE: I should like to ask Dr. Jacoby whether a general paresis could be definitely ruled out on the absence of the cerebrospinal findings. Some very interesting work has been done in connection with the spinal fluid findings in general paresis in a large insane asylum, I believe in the Middle West, where it was found that without any treatment at all there were great fluctuations in the fluid findings from week to week. In some of them the fluid returned almost normal, so it would be impossible to say whether the fluid was definitely involved. It would seem to me that this might be a possibility which would have to be kept in mind, that this case might be one in which the

spinal fluid findings were held in abeyance, in which case it might be a general paresis. Were it not for the matter of slight danger to the patient, it would be very interesting to do a puncture and examine his grey matter for spirochetes. It would certainly clear up the diagnosis if there were any question as to whether it might be a paresis or not.

DR. JACOBY: It is very true that cases have been reported in this country, from Hopkins particularly, of a very definite paresis in which the cerebrospinal fluid findings were absolutely negative. However, the patients had all received intraspinal treatment. The more important thing in this case is the extremely long duration of his condition and absence of definite signs of organic deterioration. For a paretic it is all out of keeping with our teaching. His mental symptoms began ten years ago and were of a paranoid or hallucinatory type, and he has never been right since, although he was able to support himself and father and mother in the restricted community in which he lived. His syphilis is sixteen years old. I think that probably at autopsy this man would show definite blood vessel changes in his brain, but not the true paretic process, and certainly not that of a meningitis.

A CASE OF MULTIPLE PREGNANCY WITH ECLAMPSIA; ABDOMINAL CESAREAN SECTION WITH RECOVERY.

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A statistical study of any considerable number of cases of eclampsia, will bear out the fact that this complication is much more likely to occur in cases of multiple pregnancy, and that the percentage incidence of multiple pregnancy is several times as great in a series of eclamptics than in an equal number of normal pregnancies. To quote from, "A Consideration of Vaginal Cesarean Section in the Treatment of Eclampsia based upon a study of Five Hundred and Thirty Published and Unpublished Cases," by R. Peterson; *American Journal of Obstetrics*, Vol. LXIV No. 1, 1911, the author concluded. "Multiple pregnancies are much more common among eclamptics. Twins are four and a half and triplets ten and a half times more frequent in this complication. Therefore, multiple pregnancy probably acts as a contributory cause of eclampsia." The following case is of interest, not only as a further illustration of this feature, but on account of the treatment of the condition.

The patient, V. D. Obstetric number 1314, nullipara, age 22, entered the Maternity Hospital January 27th, 1916, about seven months advanced in her first pregnancy. Past history negative except scarlet fever at 9, and diph-

theria at 14 years of age, with good recoveries. The last normal period occurred May 15th to 23rd, 1913; fetal movements were first noticed about the middle of November and were always very active. There had been no more than the normal amount of nausea and vomiting early in the pregnancy and no symptoms of toxemia. It is of interest to note that there was a history of twin pregnancies on the paternal but not on the maternal side. The patient's physical examination was negative, except that the abdomen seemed larger than could be accounted for by a single fetus at that stage of pregnancy. Palpation revealed multiple pregnancy, one child presenting by the head as an O. L. A. and the other by the breech as an S. R. P. The diagnosis of twin pregnancy was rendered certain by the presence of heart sounds corresponding to these two positions. When auscultated simultaneously by different observers, the rates were never found equal but differed as much as seventeen beats per minute. An X-ray was taken and two fetal skeletons distinctly demonstrated. The patient's blood pressure was 125, and the pelvic measurements were normal.

Pregnancy continued normal and uneventful, the urine showing no trace of albumin on any of the weekly examinations. On the afternoon of February 15th, the patient complained of rather severe headache, swelling of the ankles and spots before the eyes. She had noticed these symptoms for two days but had not thought it worth while to mention them. The blood pressure was taken and found to be 160, and a specimen of urine obtained at once, showed a heavy test for albumin and a moderate number of granular casts.

She was put to bed at once on a milk diet and given a liberal dose of saline cathartic. All urine passed was saved and the patient was closely observed for the development of further symptoms. She slept very little that night on account of headache, nausea and occasional vomiting. During the fifteen hours, from 3 p. m. to 6 a. m., about fifty ounces of urine were voided, and the Esbach showed one and a half grams of albumin per liter; the sediment revealed only an occasional granular cast. The bowels moved very freely during the night. In the morning the headache became very intense, worse over the left eye, and she complained of seeing large balls of fire before the eyes. The nausea and vomiting became more severe but the edema was less noticeable than on the previous day. There was no marked epigastric pain, but during the morning there was a rapid failure of vision in the left eye so that the

patient was unable to count fingers held before that eye. The pulse was noticed to be intermittent and irregular, and the blood pressure was now 210.

It was only too evident that the patient's condition was becoming worse very rapidly. While the treatment of the case was being discussed, the patient was suddenly taken with a typical eclamptic convulsion. A consideration of the various features of the case pointed to abdominal Cesarean section as the most favorable method of treating the case, inasmuch as the patient was a nullipara, nearly full term, with a rigid undilated cervix, due to the fact that there had been no labor pains as yet. The patient's condition was so serious that slower methods of delivery, such as packing, introduction of a rubber bag, or even manual dilation, and extraction were manifestly contraindicated. Furthermore, the risk to the twins in the longer method of dilatation and extraction would have been much increased due to continued convulsions of the mother during the delayed delivery, trauma of extraction through a rigid undilated birth canal, and the possibility of locking of the fetal heads, since one was a breech, and the other a cephalic presentation. The patient was a good risk for Cesarean, inasmuch as there had been but one convulsion, the membranes were intact, and there had been no vaginal examinations. The toxemia could be lessened during operation by permitting bleeding from the wound, and replacing this with saline subcutaneously.

The abdomen was prepared with iodine and the patient was ready for operation at 1 p. m., about one hour after the first convulsion. Very little ether was required as the patient was so profoundly toxic. A median incision was made by Dr. Peterson extending about three inches above and below the umbilicus and the uterus incised without delivering it through the wound. The twins were quickly and easily delivered and cried at once. They were both males, each weighing about six and one-half pounds. The placenta was then separated with the membranes and was found to be single with a cord arising from opposite sides. The uterus was allowed to bleed freely during the repair and saline was given subcutaneously. There were five convulsions in all, four before delivery, and one during the operation.

The patient was returned to bed with a pulse of 60, and reacted in several hours, and seemed entirely rational. The vision in the left eye returned rapidly and was apparently normal the same evening. It was found necessary to

cleanse the vagina with iodine and pass a sound up the cervical canal about seven hours after operation on account of absence of drainage, apparently due to an adherent shred of membranes or clot. This was successful and there was the usual amount of drainage thereafter. The recovery was uncomplicated except for a slight infection of the abdominal incision, which developed about the fourth day and was opened and drained for a few days, ultimately healing well. The urine cleared very rapidly and albumin and casts were absent after the fifth day. The blood pressure gradually returned to normal, and the patient was discharged in good condition.

With a knowledge of the decidedly increased susceptibility of cases of multiple pregnancy to the development of eclampsia, it is of great importance to see that such patients are more carefully observed during pregnancy, and instructed to report any symptoms suggestive of toxemia.

DISCUSSION.

DR. HOWARD H. CUMMINGS: The subject of eclampsia is always an interesting one, because we know so little about its etiology. When Dr. Bartholomew started to read the case history it occurred to me that the case reported might be one of nephritic toxemia. This patient had eye disturbances and headache early in the disease which points more to a nephritic than an eclamptic condition. However, after operation the symptoms and signs cleared up too quickly for a nephritic toxemia.

Vaginal Cesarean section for eclampsia has been advocated by a few men for the past fifteen years, and recently this method has gained in favor. However, in a primiparous woman, with a rigid cervix, trouble is sometimes encountered. Abdominal Cesarean section in clean cases seems preferable.

In spite of the vast amount of research work that has been done on eclampsia we have in the literature to-day perhaps forty theories as to the etiology of this disease, but the cause is not known. This much has been learned, that the sooner the uterus is emptied after the beginning of eclamptic convulsions the better for the patient and child. Abdominal Cesarean section in primiparous women accomplishes this. In multiparous women vaginal Cesarean section is extremely satisfactory.

DR. IRA D. LOREE: I would suggest that you do a functional kidney test upon all your cases of eclampsia. If the functional kidney test is below 10 per cent. for a two hours sample of urine, send a sample of blood for an estimation of its urea content. You will find that in some of these patients who are passing large amounts of urine the urea content of the blood is very high.

DR. BARTHOLOMEW: I might say that on a case that occurred last fall we did a urea content on the blood. It was a case which resulted fatally with very profound toxemia. The urea content as I remember it was very little if any above normal.

It was .5 and that is the upper limit of normal, I believe.

I should like to ask Dr. Wile whether there is any connection between the very high blood-pressure and the very intense itching of the skin the patient complained of.

DR. WILE: No, I should say that it was analogous to the pruritus which sometimes occurs in association with nephritis, and particularly with the old nephritic cases in which there is a retention of urea and urea in excess in the sweat. This accounts for irritation of the skin, a very high content of urea and other salts as well in the sweat.

OBSERVATIONS ON THE TENDENCY OF THE DIPHTHERIA BACILLUS TO LOCALIZE IN THE UPPER RESPIRATORY TRACT AND THE IMPORTANCE OF THIS FACT IN ROUTINE CULTURE WORK.

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In the culture work at the Contagious Hospital a definite, routine method is followed in passing the swab or platinum loop over the mucous membrane of the upper respiratory tract, and as much of the mucous membrane is touched as is possible. It is not always possible to select one particular spot, where the organisms might be expected to be more abundant.

The contagious hospital intern takes all cultures except the routine cultures at the Contagious Hospital which are taken by the nurses or the students on the section. Several demonstrations of culture taking always precedes their doing this work.

Because of past experiences in finding that the organisms of diphtheria may be present in the larynx and absent in cultures taken from the nose and throat, or positive in the nose and absent in the throat and so on, at the suggestion of Dr. Cowie I have made a number of observations with this point in view.

Of the eight cases which I wish to report upon, the organisms confined themselves to one locality—Group I—in five cases; to more than one locality—Group II—in three cases.

GROUP I.

CASE I. Marian Y., age 20, entered the Contagious Hospital service January 5, 1916—laryngeal diphtheria. General culture in this case taken in the beginning of the illness, January 2, 1916, was negative. The organisms were present in cultures taken directly from the larynx until January 4, 1916. After this cul-

tures were taken from the tonsils and pillars, the pharyngeal wall, lateral bands and from the nose. They were always negative. Total cultures 24, covering a period of twenty-eight days—antitoxin 10,000 units intravenously, 20,000 intramuscularly.

CASE 2. Ernest D., age 23, entered Contagious Hospital February 29, 1916—clinical laryngeal diphtheria, mild. Organisms were present in cultures taken from the larynx, always absent in cultures taken from the tonsils and pillars and from the pharyngeal wall and lateral bands and nose. Total cultures 28, covering a period of sixteen days. Antitoxin 10,000 units intravenously.

CASE 3. Ione O., age 25. Clinical uni-tonsillar diphtheria, marked. Entered February 8, 1916. Diphtheria organisms were always present in cultures taken from the right tonsil, always absent from cultures taken from the left tonsil and pillars, the pharyngeal wall and lateral bands and from the nose. Total cultures 32, covering a period of eleven days. Antitoxin 10,000 units intravenously, 10,000 units intramuscularly.

CASE 4. Luella S., age 21, marked clinical diphtheria of the lateral bands. Entered February 25, 1916, with positive general cultures January 26th and 29th. Special cultures began February 1st. The organisms were at all times present in cultures taken from the pharyngeal wall and lateral bands, but were never found in cultures taken from the tonsils and pillars and from the nose. Total cultures taken 25, covering a period of twenty days. Antitoxin 10,000 units intramuscularly, 10,000 units intravenously.

CASE 5. Ruth W., age 21, carrier. Entered the Contagious Hospital December 2, 1915, nose bleed two weeks before. General throat culture negative, nasal culture positive. Nose and throat cultures taken simultaneously always showed organisms in those taken from the nose, but never in those taken from the throat. Total cultures 30, covering a period of twenty days. The patient was discharged from the Hospital after three negative cultures, which terminated December 22, 1915.

She returned to the Hospital with positive general throat cultures March 18, 1916, after which special cultures were again instituted. It was now found that a positive culture was always obtained from the pharyngeal wall and lateral bands, but never from the tonsillar fossae or from the nose. (This patient had an ade-

noid and tonsil operation previous to her first entrance to the Hospital). Total cultures taken 27, covering a period of twelve days. Patient is still under observation. Schick test is negative.

GROUP II.

CASE 6. John S., age 2, carrier. Entered the Hospital February 9, 1916. This patient has hare-lip and cleft palate, enlarged tonsils and visible mass of adenoids. General culture positive February 13, 1916 and continued so until March 16, 1916 when special cultures were begun. Positive cultures were now confined to the tonsils and the visible mass of adenoids. They were never positive when taken from the nasal mucous membranes. Total cultures 24, covering a period of thirty-eight days. Patient still under observation.

CASE 7. Harry S., age 29, carrier. Entered the Hospital February 16, 1916 with facial erysipelas. General culture was positive on February 27, 1916 and continued to be so until March 13, 1916, when special cultures were started. The organisms were now present in cultures taken from the pharyngeal wall and from the pharynx, taken *per os*, but were never found in cultures taken from both tonsils, anterior nasal passages, both right and left, or from the external auditory canal. This patient had been operated upon for mastoid a few days before entering the Contagious Hospital. Positive cultures were obtained from the mastoid wound on three different days. Patient still under observation. Total cultures taken 36, covering a period of thirty-eight days. It may be of interest to note that a long type of diphtheria organism is present in this case. It has been thought that these organisms are more virulent than the short ones.

CASE 8. Sarah S., age 4, clinical nasal diphtheria December 22, 1915, which cleared up in a few days without any antitoxin. The patient was detained because of exposure to chicken-pox before entering the Hospital. General routine throat culture was positive January 26, 1916. Special cultures were begun February 2, 1916. They were taken with a swab. Those from the tonsils and pillars, pharyngeal wall and lateral bands were always positive while those from the nose were always negative. The tonsils in this case were so large that it was impossible to reach the pharynx with a swab without touching them. A stiff platinum loop was substituted for the swab. February 11, 1916. The cultures were now positive from both tonsils and negative from the pharyngeal

wall and nose.. Total cultures taken 48, covering a period of seventy-five days.

CONCLUSIONS.

1. All parts of the mucous membrane of the upper respiratory tract must be touched in making a satisfactory general culture.

2. The pharynx may be cultured and be negative for Klebs-Loeffler bacilli, but the organisms may be present in the nose or in the larynx and thus not be found except by special technic in culture work. Nose bleed and hoarseness or loss of voice should attract attention to the nose or larynx.

3. Sterile cotton swabs are found to be most adaptable for getting culture material from all parts of the upper respiratory tract. Second in preference for culture taking is a platinum loop. The platinum wire must be quite heavy and stiff in order to prevent its curling and bending. It can be used only in taking cultures from tonsils, pillars, posterior pharyngeal wall and lateral bands. It cannot be used in taking nose and laryngeal cultures because of danger of trauma to the mucous membrane.

4. Several cases in this series show the necessity of having more than one or two cultures to determine that diphtheria organisms are absent from the upper respiratory tract. In this Hospital at least three negative cultures are required before a patient may be discharged or before a nurse can return to the main Hospital for service.

5. This interesting and peculiar tendency of the diphtheria organisms to localize to one part of the upper respiratory tract should be an important factor in deciding upon a surgical or a medical treatment to eliminate the organisms from this part.

DISCUSSION.

DR. CARL H. LAWS: With regard to cultures taken by the students of the sections and by the nurses I would like to say that one student is selected from the section and is instructed in the technic of taking cultures. The nurse in charge of the ward is also thoroughly instructed before being permitted to take routine cultures.

It is an interesting and important point to find that a patient may have a laryngeal diphtheria and the cultures from the nose and throat be negative. That means that a laryngeal culture should always be taken when laryngeal diphtheria is suspected.

DR. JOHN A. WESSINGER: Dr. Walthall's paper is a very interesting one to me on account of the position which I occupy as city Health Officer. During the year the number of swabs that come into my hands run into the hundreds, by no means all being positive. Some very interesting things have occurred in this line of work. I might go back quite a number of years and point out some things.

I remember, it is now over ten years ago, two very prominent physicians in the City of Ann Arbor got into a very awkward position over a case which proved to be laryngeal diphtheria. Physician one diagnosed it as negative; physician two diagnosed it as diphtheria. There were no cultures taken. The child died and the autopsy showed extensive tracheal and laryngeal involvement with diphtheritic membrane and cultures from the larynx and trachea were positive, while cultures from the upper respiratory tract were negative. I can see, of course, some difficulty in getting antemortem cultures from the larynx. We haven't attempted that. We get them from the nose and throat. My instructions are to get them from every part of the upper respiratory tract, because there is no doubt but that the diphtheria organism tends to localize itself. It may be on one tonsil and not on the other. It may be in the nose and not in the throat. That to me from a public health viewpoint is important, and the most important question is the carrier and how to get rid of the carrier. That is a problem which has confronted us more than any other one thing. A little over two years ago we undertook an investigation here in the city on account of an outbreak of a number of cases of diphtheria at the Tappan school. We examined about 175 children and out of this number found twenty-one carriers. Four of these were nasal only. The remainder were throat, tonsils and pharynx. We had a good deal of difficulty in clearing up the nasal cases.

That leads up to the best method of getting rid of the carrier. There are three or four different viewpoints along this line. There is a man in Cleveland who has brought out something very interesting lately. He says the only thing to do is tonsillectomy and adenoid operation, while some equally able men in Chicago say that that is not necessary and that the same work can be done just as successfully chemically, and they do it with kaolin. Then there is another class of men who rely upon bacillary methods, a bacillus which is antagonistic to the Klebs-Loeffler bacillus. I believe that there will be some day a bacillus found which will destroy the Klebs-Loeffler bacillus. Some believe that the lactic acid bacillus does that. I recall an outbreak at the Mayo hospital where six nurses became infected with diphtheria and the men in charge were at a loss to know how the disease got into the hospital. They found that the chef was a carrier. Dr. Wood, the health officer of Rochester gave me their technic in getting rid of the organism. A great many men claim that all that the lactic acid bacillus does is to hide the diphtheria organism and that afterwards the original organism is just as virulent. So far as our limited observation goes that does not hold. I recall a student who had a very virulent pure culture of diphtheria. He wasn't very sick but was advised very strongly to go to the contagious ward. He was furnished with a gallon of sour milk the night before he went to the Hospital and the next day there was no diphtheria bacilli in the throat and we had him under observation for three months and there were no Klebs-Loeffler bacilli to show up. Evidently pretty *effectually* covered up.

When Dr. Canfield does a tonsillectomy there will be no more diphtheria in the tonsils, and when he does an adenoid operation there will be no diph-

theria there, but I want to say that I see a good many throats where tonsillectomies have been done that are still very capable of developing diphtheria organisms in them. People say, "How is it, doctor, my tonsils were removed?" The fact is they were not removed. They were cut in two or shaved off. When a tonsillectomy is done correctly it is all right.

As far as kaolin goes, one man says that it is very valuable. All that is necessary is to blow a little of it into the throat and it will destroy the organism. Another body of men say that it does not do it. So I think after all that a good tonsillectomy will get rid of the carrier, and so will an adenoid operation, but it seems to me that what we are coming to eventually will be the bacillary route.

Hewlett of London and Wassermann have both brought out an endotoxin by which they hope to destroy the bacillus. So it will either depend upon the bacillus direct or an endotoxin or some other preparation to do the work.

I may say a word in passing relative to the lactic acid bacillus. We had great trouble in preparing a spray which is sufficiently concentrated to do the work, so we simply whipped over to the ordinary sour milk and had the patients use that. By this method we attained negative throats and noses in from ten days to two weeks and there has been no case of diphtheria in the Tappan school since. In the past year we have only had three outbreaks in the city. The year previous to that we had seven and farther back it ran very much higher. You would be surprised to see the number of people that are using sour milk in this town. If it has no other value, it is a good food and can do no harm.

DR. ALVIN LORIE: In St. Louis we have had two frightful outbreaks with over 6,000 cases of scarlet fever and diphtheria and it has been rather difficult to turn these patients loose carrying the organism of diphtheria. We have used kaolin to quite an extent. It is a mechanical remover. It never acts unless you absolutely apply it thickly to every part of the mucous membrane. You can't do that by blowing it into the nose or mouth. Some of the children we have had swallow kaolin. In some of these cases it is marvelous the way the diphtheria will clear up. We have examined the kaolin after it has been removed and it was simply loaded with bacteria. It simply acts as a mucilage to take up the germs and mechanically remove them.

DR. R. BISHOP CANFIELD: I would like to say one word with regard to the effect of adenoid and tonsil operations upon the diphtheria carrier. No matter how well the operation is done, it does not remove all the tissue of the nose and throat which forms a suitable resting place for the bacteria. There is the rest of the lymphoid ring in which infection takes place quite as often as it does in either the tonsil or adenoid. Probably the infections which occur in the adenoid and tonsil, especially the tonsils, are more virulent than those occurring in the more superficial lymph tissue, the crypts of which are more superficial than they are in the adenoid and tonsil. These infections which occur in the parts of the lymphoid ring other than the adenoid and tonsil are more easily diagnosed and are apparently more superficial. The local manifestation in the throat is more readily seen, at least it is seen more early in the course of the disease, and in this

connection we must not forget that the lingual tonsil is a part of the lymphoid ring and it usually is overlooked in taking cultures. Consequently I have seen several cases of diphtheria of the lingual tonsil which had escaped detection when cultures had been taken.

It is a very satisfactory thing that our contagious diseases are being so carefully watched and that the investigation with regard to carriers of different infections is being so scientifically done.

LANTERN SLIDE DEMONSTRATION OF THE MONTH'S RADIOGRAMS.

JAMES G. VAN ZWALUWENBURG, M.D.

(From the Clinic of Roentgenology, University Hospital, Ann Arbor, Michigan).

1. A case of cardiac, hepatic, and splenic enlargement in an infant, endocarditis.
2. Separation of the epiphysis of the internal condyle of the humerus.
3. Comminuted fracture of radius and humerus. Railroad accident.
4. Fracture through the trochanter major in a child.
5. Tuberculosis of the shoulder joint, with large sequestrum.
6. Tuberculosis of the tarsus.
7. Bony ankylosis of the knee, old pus joint.
8. Suppurative arthritis of the knee with gas bubble in the sinus.
9. Unerupted canine teeth in an adult.
10. Ulcer cicatrix in the duodenal cap.
11. Duodenal ulcer with "nischen" and cicatrix.
12. Pelvic adherent appendix.
13. Peristalsis in an airfilled stomach, with duodenal ulcer.
14. Retrograde filling and dilatation of the duodenum, following pyloric resection and subsequent jejunal obstruction.
15. Extragastric tumor, enlarged liver.
16. Acute miliary tuberculosis.
17. Extensive chronic pulmonary tuberculosis.
18. Cavernous tuberculosis, "cured" twenty years ago, probably amyloid disease.
19. Traction dilatation of the trachea in tuberculosis, simulating cavities.
20. Mediastinal Hodgkins in a small boy.
21. Enlarged thymus disappearing under X-ray treatment. Leukemic metaplasia of thymus tissue.
22. Primary malignancy of the lung. Reduction of the mass under treatment.

23. Hypoplasia of the right arm. Photograph.

The case represented by slide No. 19 is of more than ordinary interest.

It was referred to us with the request that we confirm the internists' findings of a cavity in the right upper lobe. As not infrequently happens, we were able to demonstrate only an extensive fibrosis with consecutive distortion and dilatation of the trachea.

The danger of confusion of these two conditions seems not to be sufficiently appreciated. The underlying pathologic anatomy is perfectly clear, and it is logical to suppose that the air-filled trachea, brought near the surface and covered only by dense, well conducting tissue should give the classical signs of cavity, but I do not recall ever having seen or heard it mentioned in connection with the diagnosis of cavities.

In many cases the deviation of the trachea may be made out by palpation of the supra-sternal notch, and a wide deviation should lead to the suspicion of tracheal dilatation rather than cavity.

The case represented by slide No. 13 is interesting as giving us a side-light on the motor function of the empty stomach.

We are rather under the impression that the normal empty stomach is at rest, except for the "stomach systole" associated with hunger-pangs. But we really know very little about it since we have no way of seeing what transpires in the empty stomach. It can not be shown by the radiogram and after the introduction of any instrument the stomach is no longer empty.

Here, however, the stomach is virtually empty, only a small amount of barium remains adherent to the wall, just enough to outline the gas filled cavity. It will be seen that there are four well defined and evenly spaced peristaltic waves along the length of the organ.

It should be remarked that this is not a normally behaving stomach, there being good evidence of a duodenal ulcer, with a reflex hyperkinesis, and this persistent peristalsis is probably another expression of the results of local irritation in the duodenum.

HEALTH NEWS.

Twenty-five out of every 1,000 employes in American industries, according to recent statistics, are constantly incapacitated by sickness, the average worker losing approximately nine days each year on this account. This "non-effective rate" for the great army of industrial workers in the United States barely suggests the total money loss to employers and employes. The lessened efficiency, the effects of reduced earnings in times of sickness, as well as the cost of medical attention, and the economic loss from deaths, swell the cost to industry and to the nation to almost incalculable figures.

That much of this loss is nothing less than preventable waste and that this waste can be largely reduced by a properly conducted system of governmental health insurance for wage-workers are conclusions set forth in Public Health Bulletin No. 76, containing the results of a study of "Health Insurance—Its Relation to the Public Health," just issued by the United States Public Health Service.

The preventive value of health insurance is given especial emphasis in this study. "Any system of health insurance for the United States or any State should at its inception have prevention of sickness as one of its fundamental purposes," says the bulletin. "This country should profit by the experience of European countries where prevention is being recognized as the central idea necessary to health if health insurance is to attain its greatest success in improving the health and efficiency of the industrial population."

Such a system, it is pointed out in the bulletin, would

1. Provide cash benefits and medical service for all wage-earners in times of sickness at much less cost than is now possible. Adequate medical relief would thus be placed within the reach of even the lowest paid workers who are most subject to ill-health.

2. Distribute the cost among employers, employees, and the public as the groups responsible for disease causing conditions and afford these groups a definite financial incentive for removing these conditions. This can be done by means of small weekly payments from employees, supplemented by proportionate contributions from employers and government at a rate reducible in proportion to the reduction of sickness.

3. Become an effective health measure by linking the co-operative efforts of the three responsible groups with the work of national, state and local health agencies, and by utilizing these agencies in the administration of the health insurance system.

4. Afford a better basis for the co-operation of the medical profession with public health agencies.

5. Eliminate the elements of paternalism and charity-giving by making employees and the public, as well as employers, joint agents in the control of this fund.

"A governmental system of health insurance," concludes the study, "can be adapted to American conditions, and when adapted will prove to be a health measure of extraordinary value."

The Journal

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August.

Editorials

THE VALUE OF TUBERCULOSIS DAY.

The medical profession of Michigan, have in the establishment of their Tuberculosis Day, introduced a valuable weapon in the fight against this disease. The great value which has accrued from the information disseminated at that time is not manifested solely in the number of individuals who present themselves for examination.

We have reports of 430 cases examined on August 20th, 1915, these cases being distributed throughout thirty-nine counties of the State. It is our opinion that this represents by no means the entire number of people examined, as we have ascertained that many physicians did not return examination blanks in the case of normal individuals. The statistical information obtained of a purely medical character was invaluable, since the reports represented the work not of a single individual necessarily more or less prejudiced with regard to certain points, but the work of 117 different physicians throughout the State.

Questions such as the association of pleurisy and subsequent tuberculous disease, have never had more valuable statistics compiled. Among ninety-four cases who gave a history of pleurisy at some time in the past, seventy-one were found

to be suffering from physical signs of pulmonary disease at the time of examination, and of these forty-four showed signs of activity as indicated by a rise in temperature and an acceleration of the pulse above normal. Could any more striking evidence of the tuberculous character of pleurisy either dry or with serous effusion be desired?

This year we trust that instead of reports from 117 physicians we will have reports from many more sources. We believe that many members of the profession are not fully alive to the value of this work and have not, as yet given it the co-operation that it deserves. It is a work which is of such magnitude that it can be done by no single individual, but its fulfilment depends upon the co-operation of every physician in our society.

The information which has been disseminated in connection with Tuberculosis Day through the public press of the State has been the most potent factor in the development of preventive medicine. We are attempting to teach the public that the only way to maintain health is the periodic medical examination of the individual, and our Tuberculosis Day is a practical demonstration of the value of this fact. It must be apparent to every physician that the knowledge disseminated in connection with Tuberculosis Day is not limited to this particular disease. When individuals have learned the value of periodic medical examination, which can be taught best at first in a practical way, then indeed will the physician see the dawn of a new era, when he will meet nephritis, certain forms of cancer, arterio sclerosis, low sugar tolerance and the degenerative diseases generally at a stage in which he may still adopt the role of conqueror rather than that of the vanquished.

Governor Ferris has issued a proclamation setting aside August 10th as Tuberculosis Day of the present year. Your Committee hopes and expects that each member of the State Medical Society, insofar as possible will hold himself in readiness for the work of that day.

Please return your examination blanks at once in order that the results of our work may be tabulated in time for presentation at the Houghton meeting on August 15th.

TUBERCULOSIS COMMITTEE,
 State Medical Society.

HEALTH INSURANCE

(Continued from last month)

INSURANCE CARRIERS

The principle of compulsion accepted, the insurance may be carried in any one of three ways: (1) by a state fund managed entirely by the state, as are workmen's compensation funds now existing in several states; (2) by approved societies, as in England; or (3) by district mutual associations, as in Germany. In case of either the first or the third, a place could be made for voluntary societies, and in the second a state organization of some sort would be necessary to cover the persons refused by or refusing to join the approved societies. The draft adopts the district mutual fund as the normal carrier, to which all insured persons must belong unless they are members of an approved voluntary society. This plan provides the most effective organization for combining employers and employees in a campaign for sickness prevention, and a most convenient and practical means for fixing rates and administering benefits. (Secs. 25-28.)

The state fund is open to both positive and negative objections. Its vast detail, the number of its officials, the very large sums of money which would be distributed among individuals insured, physicians, and supply dealers, the opportunity to favor industries, individual plants, and more especially localities, in fixing rates or paying benefits, would not only make its operation cumbersome and costly but would afford rich opportunities for political favoritism and log rolling. Negatively, the state fund would not develop the sense of responsibility of the people in each locality for the sickness of their district; it would not bring home to each employer and employee the consideration that the less the sickness and the less the fraud, in town or city or industry, the less would be his contributions or the greater his benefits; it would not create a strong local organization, locally responsible and well supplied with money to fight the causes of disease. The advantages of a state fund, the wider outlook of the larger organization with resultant better information as to means of prevention and of cure, the power to compel backward communities to keep up with the progress of sanitation, the co-ordination of effort of several localities in removing a cause of infection common to all, or greater ease in suppressing such a cause or infection situated in a locality other than that in which the result is felt, prevention of local oppression, co-ordination of effort in the better-

ment of legislation, readier exercise of the state's policy power, will all be gained by the state Commission provided for in the draft.

Administration by approved societies is open to the negative objections urged against the state fund, and to many that are positive. It is not worth considering in the United States, at all events, until evidence, at present lacking, is brought forward to show that there exists a frame work of voluntary societies, fraternal, trade unions, establishment benefit funds, strong enough and widely enough extended to support the insurance. Other objections to this method of administration are the consequent multiplication of accounts, difficulties of administration, and supervision of the societies, objections on the part of the societies to state supervision, both in the granting of benefits and management of funds, and the necessity for a separate organization for medical relief which would divorce the physicians from any relation with the insurance carriers; all tending to complicate a system that should, as far as possible, be simplified.

While in the plan adopted local funds including in their membership all the insured persons in the district are the normal carriers, funds for various trades are provided to meet conditions in cities in which the large number of employees in each of several trades forms a sufficient basis for insurance. This plan will make the various mutuals less cumbersome, and will automatically take care of the troublesome question of the varying contributions among industries, according to their various rates of sickness. All funds are democratically governed by the contributors—employers and employees—whose relative representation in the governing boards is proportioned to the amount of their contributions. The members of the fund, employers and employees, elect, each for their own class, the members of a large committee which in turn chooses a board of directors to manage the fund. The large committee serves a double purpose. Because of its size it puts on a great many individuals responsibility for the success of the fund, and it is a check on the directors, necessarily a small group, who are made responsible to a body which will inquire closely into their administration, instead of to the vague, general meeting of all members, frequently impossible to assemble on account of numbers and never effective. The system is adopted from the German law, and is similar to the ordinary procedure of large corporations in which the large representative

powers of directors are often delegated to an executive committee responsible to them, the directors themselves retaining only general administrative supervision of the business. (Secs. 29-34.) A place is made in the plan for labor unions, fraternal, or establishment funds, which are willing to pay at least the minimum benefits provided for, can show that they are democratically managed, are not run for profit, and are financially sound. Employers are not required to contribute to labor unions or fraternal societies, but the state's 20 per cent. contribution is given to them. (Secs. 38-40.)

When several societies or several funds are operating in a single district they may combine in a health insurance union for the administration of the medical benefit. This arrangement is necessary both in the interest of an efficient and economical administration of the medical benefit, and to secure the union that is strength in the local campaign for sickness prevention. (Sec. 41.)

A guarantee fund is provided as a sort of reinsurance for extraordinary losses. A great flood, an unusual epidemic, would impose a heavy toll on a local fund at a time when the resources of all of its contributors were strained to the utmost. The importance of help at such a time would be well worth the small charge necessary to support the fund, a prudent investment from a purely insurance point of view. (Sec. 42.)

Section 25. **DIVISION OF THE STATE INTO DISTRICTS.** The Commission shall, within six months after this act goes into effect, divide the state into districts, no one of which shall contain less than five thousand persons subject to compulsory insurance; and shall establish one or more local or trade funds in each district.

Section 26. **AUTHORIZATION BY COMMISSION.** No fund shall begin business until it is authorized by the Commission. The Commission shall authorize a fund only after approval of its constitution and after the names and addresses of the board of directors elected for the first year have been filed with the Commission.

Section 27. **POWERS OF FUNDS.** Funds shall have all the power necessary to the carrying out of their duties under this act.

Section 28. **CONSTITUTION OF FUND.** Subject to the provisions of this act, the constitution of a fund shall contain:

- Name of the fund and vocation of its principal office;
- If the fund is a trade fund, designation of the trade or trades for which it is created;
- Maximum percentage of wages in each occupation at which the regular contribution may be fixed;

Nature and amount of benefits and length of time during which they shall be given;

Manner of election, number, powers, duties, and time of meeting of the committee;

Number, powers, duties, and time of meeting of the board of directors;

Method of amendment of constitution;

and such other provisions as may be directed by the Commission.

Section 29. **COMMITTEE OF THE FUND.** There shall be a committee of each fund which shall consist of not less than twenty and not more than one hundred members, to be elected annually in the manner provided in the constitution, one-half by and from the employer members of the fund, one-half by and from the employee members. The committee shall pass upon the annual account and report submitted by the directors.

Section 30. **EMPLOYERS' VOTES.** Each employer member shall have as many votes for employer members of the committee as he employs workmen subject to the insurance and members of the fund, except that no one employer shall have more than 49 per cent. of the total vote cast by employers unless otherwise provided in the constitution.

Section 31. **BOARD OF DIRECTORS.** The board of directors shall be elected by the committee for a period of one year. All directors must be citizens of the United States. The board shall consist of not less than eight and not more than eighteen directors, one-half of whom shall be elected by employer members of the committee, and one-half elected by employee members of the committee. No one shall be a member of the committee and a director at the same time. The compensation of members of the board shall not be more than \$5 a day for each day of attendance upon the meetings of the board.

Section 32. **RESERVE.** Every local or trade fund shall accumulate a reserve. The board of directors shall transfer to such reserve one-twentieth of the annual income of the fund until such reserve is equal to one-sixth of the total expenditures for the preceding three years. The reserve shall be maintained at this level. Any surplus which may accrue from the investment of such reserve may be transferred into the general account of the fund.

Section 33. **PAYMENT OF CONTRIBUTION.** Every employer must pay to any local or trade fund on the date on which he pays his men, or at least monthly, the total contributions due from him and from his employees to such fund. He may deduct the sum paid as contribution due from each employee from his wages, but must inform him, in a method to be approved by the Commission, of the amount so deducted.

Section 34. **MEMBERSHIP IN FUND.** Every person subject to insurance shall be an insured member of the trade fund of the trade at which and in the district in which he is employed; or if there be no such fund, of the local fund of such district; provided that while he is a member of an approved society he shall be excluded by the board of directors from membership in the fund. The Commission shall provide by regulation for the case of

persons regularly occupied at one trade but temporarily employed at another. Membership in a local or trade fund shall cease as soon as the insured becomes a member of another local or trade fund. Any employer shall be an employer member of all funds of which any of his employees are members.

Section 35. VOLUNTARY INSURANCE. A person entitled to voluntary insurance must be admitted on application to membership in the trade fund of his trade in the district in which he is employed, or if there be no such fund, then in the health fund of such district: Provided, That, except for persons who have been compulsorily insured members within the last twelve months, the by-laws of any fund may prohibit the admission to voluntary insurance of a person who has not passed a satisfactory medical examination by its medical officers, and that the application for admission be subject to the same condition as an application for ordinary life insurance. The contribution of the voluntary member shall be equal to the contribution required of the employer and employee for a compulsory member of the same trade and earnings.

Section 36. LOSS OF VOLUNTARY MEMBERSHIP. A person voluntarily insured loses his membership if he acquire membership, either voluntary or compulsory, in another fund or society, or if he be in arrears for one month in the payment of his contributions, unless this period be extended by the constitution.

Section 37. FINES AND PENALTIES. Funds may fine their employer and insured members and suspend insured members from benefit for violation of their rules or regulations or for fraudulent representations made with the intent of securing or aiding another to secure benefits, in accordance with rules approved by the Commission providing for such fines or suspensions. If an employer fail or refuse to pay the contribution which he is required to pay under this act the carrier to whom they are due may recover the whole sum with interest at 6 per cent. by suit in a court of competent jurisdiction, and the employer shall not be entitled to deduct any part of the sum from the wages of his employee or employees.

Section 38. APPROVED SOCIETIES. A labor union, benevolent or fraternal society or an establishment society shall be approved by the Commission only after hearing the local or trade funds affected and only if:

- It is not carried on for profit, but reasonable salaries paid officials shall not be considered profit;
- It is under the absolute control of the insured members in so far as the insurance regulated by this law is affected, except that the employer may appoint one-half of the governing body of an establishment society;
- It shall satisfy the Commission that it is in a sound financial condition.
- It grants at least the minimum benefits provided in this act;
- It has a membership of at least five hundred persons insured for at least the minimum benefits provided under this act or their equivalent, except that in the case of estab-

lishment societies in which the employer satisfactorily guarantees the payment of benefits, the number of members may be fixed by the Commission;

Its operation will not, in the opinion of the Commission, endanger the existence of any local or trade fund;

In case of an establishment society, a majority of the employees subject to insurance request approval, and the employer's contribution is at least equal to that of all the employees.

The approval of the Commission may be withdrawn at any time upon its finding, after hearing the society affected, that any of the required conditions are no longer satisfied. The Commission may, after a hearing, permit an establishment society to accept, on conditions satisfactory to the Commission, as members all persons subject to insurance in its district.

Section 39. EMPLOYERS' CONTRIBUTIONS. The Commission shall assess, upon every employer any of whose employees are insured in labor union, benevolent, or fraternal societies, a sum equivalent to the employers' contributions had such employees been members of funds. This sum shall be paid in monthly instalments into the guarantee fund established by the Commission.

Section 40. STATE CONTRIBUTIONS. The state shall contribute to every approved society one-fifth of its total expense for benefits and for the expense of Health Insurance under this act, subject to the provisions of Section 42.

Section 41. HEALTH INSURANCE UNION. Two or more health insurance carriers within a district may combine for the administration of the medical benefit subject to the approval of the Commission. The Commission may, after notice to and hearing of the parties of interest, withdraw its approval and dissolve the union, making such disposition of its property as may seem to it in the best interest of the insured.

Section 42. GUARANTEE FUND. The Commission shall reserve 10 per cent. of the contributions of the state to the carriers and pay it into a fund to be known as the guarantee fund, from which it shall contribute for the relief of any carrier on the application of its board of directors after investigation by the Commission. A contribution shall be made only where, in the judgment of the Commission, the necessity arises from epidemic, catastrophe, or other unusual conditions, and shall never be made where, in the opinion of the Commission, the deficit is due to failure or refusal of the directors to levy proper rates of contributions. When and as long as, in the opinion of the Commission, the guarantee fund is sufficient, the Commission shall make no reservation for this purpose.

STATE SUPERVISION

The duties of the public administrative authority under the draft will be principally judicial and supervisory. Its purely administrative functions will be few. It is probable that in some states adequate supervision can be developed under existing administrative bodies,

such as those administering workmen's compensation, while in other states a non-partisan commission of several members, with terms expiring at different times, may be desirable. (Secs. 43-51.)

A social insurance council formed of elective representatives of employers and employees is joined to the Commission in an advisory capacity. An independent body of experienced men is thus provided to advise the public authority, but it has no power to obstruct or delay the execution of the Commission's orders. Its participation on the judicial side will lighten the work of the commissioners and will provide the element of non-partisan, technical knowledge so important for both just and prompt decisions. This sharing in the administration by these men directly concerned in the insurance as beneficiaries and contributors will increase their interest and their knowledge of its operation, will make the administration more surely mutual and diminish the danger from political or selfish ambitions. The method of election of councillors is inexpensive and will insure a more careful judgment as to qualifications of candidates than a general election by all persons in the insurance. (Secs. 52-55.)

Section 43. STATE SOCIAL INSURANCE COMMISSION. A state Social Insurance Commission is hereby created, consisting of three commissioners, to be appointed by the governor, one of whom shall be designated by the governor as chairman, and one of whom shall be a physician. The term of office of members of the Commission shall be six years, except that the first members thereof shall be appointed for such terms that the term of one member shall expire on January first, nineteen hundred and eighteen; one on January first, nineteen hundred and twenty, and one on January first, nineteen hundred and twenty-two. Each commissioner shall devote his entire time to the duties of his office, and shall not hold any position of trust or profit, or engage in any occupation or business interfering or inconsistent with his duties as such commissioner, or serve on or under any committee of a political party. The Commission shall have an official seal which shall be judicially noticed.

Section 44. SECRETARY. The Commission shall appoint and may remove a secretary, at an annual salary of ——. The secretary shall perform such duties in connection with the meetings of the Commission and its investigations, hearings and the preparation of rules and regulations under the provisions of this act, as the Commission may prescribe.

Section 45. OFFICERS AND EMPLOYEES. The Commission may appoint such officers, other assistants and employees as may be necessary for the exercise of its power and the performance of its duties under the provisions of this act, all of whom shall be in the competitive class of the classified civil service; and the Commission shall prescribe their

duties and fix their salaries which shall not exceed in the aggregate the amount annually appropriated by the legislature for that purpose.

Section 46. SALARIES AND EXPENSES. The chairman of the Commission shall receive an annual salary of —— and each other commissioner an annual salary of ——. The commissioners and their subordinates shall be entitled to their actual and necessary expenses while traveling on the business of the Commission. The salaries and compensation of the subordinates and all other expenses of the Commission shall be paid out of the state treasury upon vouchers signed by at least two commissioners.

Section 47. OFFICES. The commission shall have its main office in the capitol of the state and may establish and maintain branch offices in other cities of the state as it may deem advisable. Branch offices shall, subject to the supervision and direction of the Commission, be in immediate charge of such officials or employees as it shall designate.

Section 48. POWERS OF INDIVIDUAL COMMISSIONERS. Any investigation, inquiry or hearing which the Commission is authorized to hold or undertake may be held or undertaken by or before any commissioner, and the award, decision or order of a commissioner when approved and confirmed by the Commission and ordered filed in its office shall be deemed to be the award, decision, or order of the Commission. Each commissioner shall, for the purpose of this act, have power to administer oaths, certify to official acts, take depositions, issue subpoenas, and compel the attendance of witnesses and the production of books, accounts, papers, records, documents and testimony.

Section 49. POWERS OF COMMISSION. The Commission may adopt all reasonable rules and regulations and do all things necessary to put into effect the provisions of this act.

Section 50. JURISDICTION OF COMMISSION TO BE CONTINUING. The power and jurisdiction of the Commission over each case shall be continuing, and it may, from time to time, make such modification or change with respect to former findings or orders thereto as in its opinion may be just.

Section 51. REPORT OF COMMISSION. Annually on or before the first day of February the Commission shall make a report to the governor, which he shall lay before the legislature, which shall include a statement of the apportionment of the state contribution, statistics of sickness experience under this act, a detailed statement of the expenses of the Commission, the condition of the state guarantee fund, together with any other matter which the Commission deems proper to report, including any recommendations it may desire to make.

Section 52. SOCIAL INSURANCE COUNCIL. The social insurance council shall consist of twelve members, six of whom shall be elected by employer directors of the local and trade funds and six by employee directors of the local and trade funds; their term of office shall be two years, except that in the first election three of the employer and three of the employee members of the council shall be elected for one year; they shall receive a compensa-

tion of ——— a day for each day spent on the business of the council and shall be reimbursed for reasonable expenses.

Section 53. OFFICERS OF COUNCIL. The council shall elect a president from its own number; the secretary of the Commission shall act as the secretary of the council.

Section 54. MEETINGS OF COUNCIL. The council shall meet during the first week of December, of March, of June, of September, each year. Special meetings shall be called by the president on the request of at least five members of the council or of two members of the Commission, at any time.

Section 55. DUTIES OF COUNCIL. The annual report and recommendations of the Commission shall be laid before the December meeting of the council before transmission to the governor, and the council may approve them or make a separate report and recommendations to the governor. All general regulations proposed by the Commission shall be laid before the council at a regular or special meeting for discussion before final adoption, except in cases of urgency, to be determined by the Commission, and in this case the regulation shall be laid before the next regular meeting of the council or a special meeting called for the purpose.

Section 56. MEDICAL ADVISORY BOARD. The state medical societies shall choose a medical advisory board which shall be consulted on medical matters.

Section 57. SETTLEMENT OF DISPUTES. All disputes arising under the act, except those provided for in Sections 14 and 58, shall be determined by the Social Insurance Commission either on appeal from the proper authority or from the carrier or, in case of disputes between carriers, by original proceedings. The Commission may assign any dispute for hearing and determination to a dispute committee composed of one employer and one employee member of the council, and a member of the Commission, as chairman, the members of the council to serve in turn on the dispute committee for periods of one month; either party may appeal from the decision of the dispute committee to the Commission within thirty days from the date of rendering the decision.

Section 58. MEDICAL DISPUTES. All disputes regarding medical benefit which have been appealed to the Commission shall be referred by the Commission to the medical advisory board which shall report to the Commission and the Commission shall not decide any such dispute until after a report has been made by the board.

Section 59. SUITS AT LAW. Suit shall not be brought in any court on any matter on which an appeal is allowed to the Commission, until after a decision by the Commission or of a dispute committee, and the statutes of limitations shall not begin to run in such cases until after decision of the Commission or dispute committee is filed.

ANNUAL MEETING.

In this issue there is contained the completed program for our Fifty-first Annual Meeting that is to convene in Houghton on August 15, 16 and 17. A careful perusal of this program will reveal to the reader that this meeting promises to be of extraordinary interest and profit. We are not without considerable pride over the general excellency of the papers and subjects that are to be presented and discussed. There is every assurance that the meeting is going to maintain past experiences. All that is needed is a goodly attendance and spirited interest. It rests with you, member, to supply this latter requisite.

The Houghton County profession is alert to the responsibilities that rest upon them as hosts and they have indicated that they will not be found wanting.

We desire to call to the attention of the appointed delegates that the first session of the House of Delegates will convene on Tuesday evening as determined by the 1915 meeting of that legislative body. All delegates are expected to be present at that first session of the House of Delegates—Tuesday evening, August 15, at 8:00 p. m.

We refer every member and reader to the official program for further announcements and information.

SPECIAL TRAIN.

In our June and July issues we stated that a Special Train to Houghton would be arranged for providing 100 reservation were secured. At the time of going to press the reservations made have been very far below the required number. We are therefore compelled to announce that this special train will NOT be arranged for. Members going to Houghton to attend the Annual Meeting will find the following the most available routes:

By boat from Port Huron. (See advertisement this issue).

Members residing in the Eastern part of the State: Via Michigan Central Railroad to Mackinaw and then via the South Shore line from St. Ignace.

From Detroit to Grand Rapids and then via G. R. & I. to Mackinac and via South Shore Line to Houghton.

Via Chicago: Leave Chicago on sleeper at night via the Northwestern or the Chicago, Milwaukee and St. Paul R. R.s arriving in Houghton the following morning.

The above mentioned routes are the most suitable routes by which connections are made with the least amount of disturbance.

HOTELS.

The Douglas Hotel at Houghton is the official headquarters. This hotel can provide accommodations for 125 and the Dees Hotel for 50. At Hancock, distant but five minutes on the street car, the Scott Hotel can accommodate 100 and the Northwestern 50. Calumet is but 12 miles from Houghton with a half-hour car service. The Northwestern Hotel in Calumet will accommodate 50. In addition the Committee has provided a list of rooms in private homes and all those who have not secured hotel accommodations may be assured of comfortable rooms if they will make application to Dr. S. LeVine, Secretary of the Committee on Arrangements, Houghton, Mich.

ON DUTY.

When the call came for the mobilization of the National Guard, a goodly number of our fellows loyally responded and leaving home and practice, are now on duty in the United States Army.

Words are utterly inadequate to record appreciation of this service of the profession to the public and the personal sacrifice each member is making to this end. Conflicting emotions are aroused by the contemplation of this sacrifice wholly unnecessary were considerations of humanity and the square deal to govern the relation of so-called "rulers." (may the word eventually be consigned to oblivion) to one another even as they govern the relations of physician to patient. Medicine and the allied sciences and arts, (surgical, dental, nursing, laboratory, pharmaceutical, etc.) constitute the only conservative influence in war. Our admiration goes out to the medical brethren who have in this, as invariably in similar crises in the past, upheld the sacred tradition of the profession. His service required, no matter when or where, in storm or sunshine, on the broad highways or the lowly bypaths of life, in war or peace, in scourge or pestilence, the true physician has been found ready for duty. More have responded to the present call than were needed and many are holding themselves in readiness to move when the necessity arises.

With admiration for this unselfish devotion to their country and profession, there is associated the sentiment of sympathy for the wives

and families of these men separated from their homes and work, responding to a call which leads them God knows where. There is no fear that they will not acquit themselves with honor and fidelity. We know they will—but a feeling of gloom steals in through the spectre of danger which the future may have in store for these devoted men. We pledge them support and allegiance. Their families shall have our watchful care and protection and on their return, friendship and aid shall be ungrudgingly given to the end that they be enabled to resume their work at the point where it was interrupted.

It is difficult to repress the feeling that the necessity for this sacrifice has been brought about through unpreparedness, political manoeuvring, unpractical theories as to "peace, peace where there is no peace," and to governmental inefficiency. Sentiments of this sort should not, however, dominate in the presence of a grave emergency.

The *Journal* pledges the support of Michigan doctors at home to those at the front who have so cheerfully heeded the call of their country.

ACTIVE OR SILENT?

A few years ago, shortly after the present Compensation law became effective, considerable comment was heard here and there about the law being an imposition upon the profession in that it conferred authority to question medical and surgical fees. There were some who implied that had they but known that the law was under consideration they would have become active so as to cause the incorporation of certain clauses that would insure a more favorable enactment in behalf of the doctors.

The fact that that law was being proposed and that it would most likely be enacted by the legislature was announced to the entire profession of the state. The profession remained silent and no organized effort was made to interview the legislators. If that law contains clauses that are detrimental to the profession the doctors of Michigan individually and collectively are at fault because they made no attempt to prevent or modify the proposed legislation. They remained silent upon the entire subject.

There is now looming up on the horizon a movement that is being directed to secure legislative enactment that will provide sick insurance for certain classes and that will create a plan whereby medical and surgical services will be provided upon a fee or salary basis. In

our last issue and also in this one we are publishing a proposed draft of such a law. A careful perusal of its provisions will at once convince our members of the vital problems that are involved. If that law, or one similar in its provisions, is enacted there is going to be created a condition that is of vital concern to every doctor in Michigan. It is going to be determined by legislators what duties are to be performed by the medical profession and how the services of the doctors shall be remunerated.

The time is here—now—when the profession of Michigan as a whole and as individuals should give this matter their earnest thought. Plans should be advanced for a careful study of the subject. Committees should be appointed. Preparation should be made to impress the legislators that when such an act comes up for consideration that the organized profession of the state should be consulted and heard. The full strength of an active and influential organized profession should be concentrated in the solution of this problem and to direct the ultimate enactments. The profession must become active.

Are you going to be active or silent? Are you going to devote time and study to the subject? Are you going to arouse your community's interest? Are you going to do your part to gain the respect and influence of the representatives of your vicinity? Are you going to attend the state meeting and help start the movement in the right direction?

These are pointed questions that must be solved by each member and which require his active consideration. If you are content to remain silent you will have no right to make a holler or voice a complaint when the law is passed and in force. Are you going to be silent or active?

Editorial Comments

The officers and staff of Grace Hospital, Detroit, have undertaken the publication of a Bulletin that they propose to issue quarterly. It is devoted to the research and clinical investigations that are developed in the hospital. The first issue contains several very interesting and valuable articles and case reports. It is attractive in form and typographical construction. We venture to prophesy that the early future will witness its development into a very valuable medical publication.

If you have any regard or interest in your *Journal* we earnestly request that you patronize our advertisers and give them your preference. Unless our advertising income is increased and advertisers are impressed with the value of our *Journal* as a sales medium there will be no other course than to diminish the size of the publication. The increased cost in paper, ink, labor, etc., will not permit us to send out an eighty to ninety page *Journal* unless our revenues from advertising are increased.

The Committee on Social Insurance of the A.M.A. closes its annual report with this paragraph: "The more these laws are studied the more it is evident how essential is the medical profession in their administration. It is equally essential that the profession should clearly understand these laws." We therefore urge that every reader make it a point to familiarize himself with the points at issue and that in so doing we, as a united profession, may govern and direct the important provisions of this proposed innovation.

After the expenditure of some three months devoted to the trial of the Wine of Cardui Suit of libel against the *Journal of the American Medical Association* the jury after being out six days, returned a verdict of one cent in favor of the plaintiff. One hundred and ninety witnesses were placed upon the stand and some 506 depositions were presented. The damages that were asked by the plaintiff was \$200,000. We concur in the comment of the *Journal of the A.M.A.*: "Viewing all the facts in the case and remembering the heavy damages asked by the plaintiff the medical profession may interpret the verdict thus: 'Technically guilty; morally justified. To the Association a moral triumph; to the 'patent medicine' interests a Pyrrhic victory.'" The suit revealed but another instance wherein the profession as a whole assume the moral and financial burden in its attempt to safeguard the public health. It is not only necessary that the profession unselfishly devote its time and energy in pointing out to the public the frauds that are being perpetrated and thrust upon them but in addition the profession must defend its efforts in behalf of humanity in the courts of law. Such a state of affairs may seem discouraging but eventually we are certain that the truth will prevail and the ends sought be attained. Then, greater will be the glory and the honor. In the meantime we pledge our loyal support and con-

fidence to those members who compose the Council on Pharmacy and assure them that we are back of them in the commendable work that they are doing.

Of course you are going to Houghton. The dates are August 15, 16 and 17. In addition to participating in a valuable program it will be an excellent outing.

Six medical schools (University of Minnesota, Rush, California, Vermont, Leland Stanford and Northwestern Universities) have adopted the rule that their graduates must pursue a year of hospital internship before being granted their medical degree. The Medical Boards of Registration of Pennsylvania, New Jersey and Rhode Island definitely require a year of service in an approved hospital as a requisite for the licensure to practice medicine in those states.

The foregoing is indicative of the trend of medical educational requirements that are being exacted and which requirements will in the very near future become universal. By 1920 this will undoubtedly be a requirement of all state boards.

There then presents the problem of inspecting and classifying the hospitals of this country and designating those that are capable of giving a satisfactory course of work to the internes. The Council on Medical Education has this work in hand and the American College of Surgeons has a fund of \$10,000 placed at its disposal by the Carnegie Foundation for the coming three years that is to be devoted to this work—a total of \$30,000. The systematic way in which the work is to be undertaken promises that on completion valuable data will be available in regard to every hospital of any consequence.

It therefore becomes incumbent upon every hospital and its staff to promptly undertake the institution of such plans and methods as will entitle their hospital to be incorporated in the recognized and approved list.

Almost two years ago we stated in these columns that in order to be effective and of value the mechanical apparatus—the Pulmotor and Lungmotor—should be available and in action within five minutes after respiration had ceased. A recent issue of the *Journal of the A.M.A.* contains an article of "Resuscitation Apparatus" and we quote the following: "The Resuscitation Committee concluded that probably ten minutes is the extreme limit of

time beyond which restoration is practically impossible. In animal experimentation when the animal has been left alone after respiration has ceased for a period of five minutes, the subsequent efforts of revival have never been successful."

After numerous and repeated experiments and attempts that all resulted in failure to re-establish the respiratory act we have come to the conclusion that these mechanical contrivances are of little use after the lapse of five minutes. In several instances we have labored for four hours without success and in a goodly number of instances we have operated these mechanical respirators for an hour with like failure. Our attitude is that when there is no heart action and respiration signs have been absent for a period of five minutes that then all hope of re-establishing these vital functions must be abandoned.

The teaching of employees and department heads the method of performing Sylvester's or Schaefer's manipulations of artificial respiration will be attended with greater beneficial results than the purchase of any number of mechanical devices. The purchase of a mechanical apparatus may well be considered a useless extravagance.

A room fitted as a small laboratory, with the necessary chemicals and a microscope, will prove a better investment in the long run than a static machine, ozone apparatus and similar new-fangled mechanical contrivances.

Informally it was brought to the attention of a number of civilian physicians that a consulting committee on medical preparedness would be desirable. The presidents of the American Medical Association, American Surgical Association, Congress of American Physicians and Surgeons, the Clinical Congress of Surgeons of North America and the American College of Surgeons appointed a committee that would co-operate and develop the civilian and reserve medical resources of this country to the highest point of efficiency. That committee was organized on April 14th with Dr. W. J. Mayo as Chairman and Dr. Frank F. Simpson as Secretary. On April 20th the Executive members of this committee met in Washington and presented in person to President Wilson a memorandum of which the following was the chief feature:

1. To establish through the membership of their respective affiliations and the local medical societies of the several states, an organiza-

tion that would be in a position to make a comprehensive survey of the medical resources of the country.

2. To make a complete invoice of such resources available in peace and in the emergency of war. This invoice would include not only the names of the men available for field or home duty who are trained in the specialties of medicine, surgery, and sanitation, but would also include the extensive equipment under the control of these men, such as hospital facilities and lists of trained nurses.

3. To aid the public health service, in sanitation, quarantine, and the hygiene of troops; in the inspection of camps and posts; to analyze water sources and supply systems; to study effects of climates, exposure, diet, etc., all designed for the welfare of individuals enlisted in the Army and Navy Departments.

This General Committee, in pursuance of its plan for a general survey of the medical resources of the country, has selected a committee in each state to aid in the work. The Committee thus appointed for Michigan consists of: Reuben Peterson, Chairman, A. W. Hornbogen, F. C. Warnshuis, Max Ballin, J. T. Case, J. G. R. Manwaring, C. B. G. deNancréde and R. R. Smith.

The entire profession of the Upper Peninsula extends a most cordial and hearty invitation to all the members to attend our Fifty-first Annual Meeting in Houghton on August 15, 16 and 17, as the guests of the Houghton County Medical Society. Our hosts have been unceasing in their labors to provide for our comfort, profit and pleasure and are eager to have us visit them in goodly numbers.

Blanks for reporting the examinations of persons presenting themselves on Tuberculosis Day have been mailed to all County Secretaries and may be secured from them. It is urged that these blanks be promptly mailed to Dr. V. C. Vaughan, Jr., Kresge Bldg., Detroit, in order that he may compile a report of the results and render this report at our Annual Meeting.

DO YOU KNOW THAT

Rural sanitation is a health protection to the city-dweller?

It's foolish to educate a boy and then let him die of typhoid fever?

The U. S. Public Health Service issues a free bulletin on the summer care of infants?

Exercise in the garden is better than exercise in the gymnasium?

Program of the Fifty-first Annual Meeting of the Michigan State Medical Society at Houghton, August 15-16-17, '16

OFFICIAL CALL

The Fifty-first Annual Meeting of the Michigan State Medical Society will be held in Houghton, Houghton County, Michigan on Tuesday, Wednesday and Thursday, August 15, 16 and 17, 1916.

The HOUSE OF DELEGATES will convene on TUESDAY Evening, August 15 at 8:00 p. m.; WEDNESDAY at 8:30 a. m.; THURSDAY at 8:00 a. m.

The COUNCIL will convene in regular session on TUESDAY Evening at 6:00 p. m.

The GENERAL SESSION will convene on WEDNESDAY Morning at 10:00 a. m. and on THURSDAY Morning at 11:30 a. m.

The COUNTY SECRETARIES ASSOCIATION will meet on TUESDAY Evening at 6:00 p. m.

The SCIENTIFIC SECTIONS will hold their regular sessions at such time and place as is designated hereafter in the program.

A. W. Hornbogen, President.

Frederick C. Warnshuis, Secretary.

PLACE OF MEETINGS

The HOUSE OF DELEGATES will hold their sessions in the Amphidrome.

The GENERAL SESSIONS will meet in the Amphidrome.

The COUNCIL will meet in the Parlor of the Douglas House.

The SCIENTIFIC SECTIONS will meet in the auditoriums designated in the Section Program.

THE COUNCIL

Chairman—William T. Dodge, Big Rapids.

Vice-Chairman—A. L. Seeley, Mayville.

Secretary—F. C. Warnshuis, Grand Rapids.

MEETINGS

Tuesday Evening, August 15 at 6:00 p. m.

Wednesday, August 16 at 12 noon.

Thursday, August 17 at 12 noon.

HOUSE OF DELEGATES

Meeting Place: Amphidrome

President—A. W. Hornbogen, Marquette.

Secretary—F. C. Warnshuis, Grand Rapids.

FIRST SESSION**Tuesday Evening, August 15th, 8:00 P. M. Sharp.****ORDER OF BUSINESS:**

1. Call to Order by the President.
2. Roll call.
3. Report of the Committee on Credentials.
4. Reading of the Minutes of the last Annual Meeting.
5. Annual Report of the Council, W. T. Dodge, Chairman, Big Rapids.
6. Report of Delegates to the American Medical Association, L. J. Hirschman, Detroit.
7. Report of the Committee on Medical Education, Burt R. Shurly, Chairman, Detroit.
8. Report of the Committee on Legislation and Public Policy, A. M. Hume, Chairman, Owosso.
9. Report of the Committee on Venereal Prophylaxis, Udo J. Wile, Chairman, Ann Arbor.
10. Report of the Committee on Tuberculosis, V. C. Vaughan, Jr., Chairman, Detroit.
11. Report of the Committee on Public Health Education, Guy L. Kiefer, Chairman, Detroit.
12. Report of the Committee on Civic and Industrial Relation, Reuben Peterson, Chairman, Ann Arbor.
13. Election of Committee on Nominations.
The duty of this committee is to nominate:
 - (a) 1st, 2d, 3rd and 4th Vice-Presidents.
 - (b) Two delegates to American Medical Association to succeed L. J. Hirschman and H. E. Randall.
 - (c) To select place for holding the 1917 Annual Meeting.
14. Appointment of Business Committee and other Committees by the President.

SECOND SESSION**Wednesday, August 16th, 8:30 A. M.**

1. Roll Call.
2. Miscellaneous Business.
 - (a) Recommendations to the Council.
 - (b) Proposals of amendments to the Constitution and By-Laws.
3. New Business.
4. Report of Appointed Committees.

THIRD SESSION**Thursday, August 17th, 8:00 A. M.**

1. Roll Call.
2. Unfinished Business.
3. Report of Committees.
4. Report of the Nominating Committee.
5. Election of Nominees.
6. Miscellaneous Business.
7. Adjournment *Sine die*.

DELEGATES AND ALTERNATES—FIFTY-FIRST ANNUAL MEETING

NOTE: Delegates name in black face type; Alternates in light face.

ALPENA—Branch No. 48**Leo Secrist, Alpena.**

F. J. McDaniels, Alpena.

ANTRIM-CHARLEVOIX-EMMET—**Branch No. 41.****L. W. Gardner, Harbor Springs.**

C. C. Varden, East Jordan.

BARRY—Branch No. 26**G. W. Lowry, Hastings.****BAY-ARENAC-IOSCO—Branch No. 4****Hubbard N. Bradley, Bay City.**

A. F. Stone, Bay City.

BENZIE—Branch No. 59**E. J. C. Ellis, Benzonia.**

H. J. Kinne, Frankfort.

BERRIEN—Branch No. 50**BRANCH—Branch No. 9****Samuel Schultz, Coldwater.**

R. W. Ridge, Coldwater.

CALHOUN—Branch No. 9**E. L. Parmenter, Marshall.****S. R. Eaton, Battle Creek.**

E. L. Eggleston, Battle Creek.

Geo. C. Hafford, Albion.

CASS—Branch No. 36**W. C. McCutcheon, Cassopolis.**

S. L. Loupee, Vandalia.

CHEBOYGAN—Branch No. 58**W. F. Reed, Cheboygan**

C. B. Tweedale, Cheboygan.

CHIPPEWA-LUCE-MACKINAW—**Branch No. 35****E. H. Campbell, Newberry.**

J. H. Ferguson, Saulte Ste. Marie.

CLINTON—Branch No. 39**A. O. Hart, St. Johns.**

M. Weller, St. Johns.

DELTA—Branch No. 38**A. W. Miller, Gladstone.**

G. W. Moll, Foster City.

DICKINSON-IRON—Branch No. 56.**E. M. Libby, Iron River.****A. M. Darling, Crystal Falls.**

C. F. Larson, Crystal Falls.

E. Cruse, Iron Mountain.

EATON—Branch No. 10**P. H. Quick, Olivet.**

Walter Taylor, Pottersville.

GENESEE—Branch No. 24

H. A. Stewart, Flint.
J. C. Benson, Flint.
C. D. Chapell, Flint.
W. C. Reed, Grand Blanc.

GOGEBIC—Branch No. 52

W. E. Tew, Bessemer.
A. J. O'Brien, Ironwood.

GRAND TRAVERSE-LEELANAU—

F. P. Lawton, Traverse City.

GRATIOT ISABELLA-CLARE—Branch No. 25

C. B. Gardner, Alma.
M. F. Brondstetter, Mt. Pleasant.
C. M. Denny, Middleton.

HILLSDALE—Branch No. 3

W. H. Sawyer, Hillsdale.
H. H. Frazer, Hanover.

HOUGHTON-BARAGA-KEWEENAW—**Branch No. 7**

W. H. Dodge, Hancock.
R. B. Harkness, Houghton.

HURON—Branch No. 47

S. B. Young, Caseville.
A. E. W. Yale, Pigeon.

INGHAM—Branch No. 40

B. M. Davey, Lansing.
B. D. Niles, Lansing.

IONIA—Branch No. 16

R. R. Whitten, Ionia.
F. A. Hargrave, Palo.

JACKSON—Branch No. 27

L. J. Harris, Jackson.
H. A. Broun, Jackson.

KALAMAZOO-VAN BUREN-ALLEGAN—**Branch No. 64**

P. T. Butler, Kalamazoo.
A. L. Van Horn, Otsego.
W. F. Hoyt, Paw Paw.
L. V. Rogers, Galesburg.
C. A. Bartholomew, Martin.
N. D. Murphy, Bangor.

KENT—Branch No. 49

F. J. Lee, Grand Rapids.
A. J. Baker, Grand Rapids.
H. W. Dingman, Grand Rapids.
L. A. Roller, Grand Rapids.
H. J. Pyle, Grand Rapids.
C. C. Slemmons, Grand Rapids.

LAPEER—Branch No. 23

D. J. O'Brien, Lapeer.

LENAWEE—Branch No. 51

F. A. Howland, Adrian.
Geo. Lochner, Adrian.

LIVINGSTON—Branch No. 6

E. B. Pierce, Howell.
B. H. Glenn, Fowlerville.

MACOMB—Branch No. 48**MANISTEE—Branch No. 48**

Jas. A. King, Manistee.
D. H. McMullen, Manistee.

MARQUETTE-ALGER—Branch No. 28

C. F. Moll, Kenton.
J. H. Holm, Ishpeming.

MASON—Branch No. 17

S. M. Spencer, Freesoil.
W. C. Martin, Scottville.

MECOSTA—Branch No. 8

C. F. Karshner, Big Rapids.
Geo. H. Lynch, Big Rapids.

MENOMINEE—Branch No. 55

S. C. Mason, Hermansville.
C. R. Elwood, Menominee.

MIDLAND—Branch No. 43

Gus Sjolander, Midland.
E. J. Dougher, Midland.

MONROE—Branch No. 15

P. S. Root, Monroe.
V. Sisung, Monroe.

MONTCALM—Branch No. 13

A. S. Barr, Greenville.
F. J. Fralick, Greenville.

MUSKEGON-OCEANA—Branch No. 61

V. A. Chapman, Muskegon.
F. W. Garber, Muskegon.

NEWAYGO—Branch No. 50

W. H. Barnum, Fremont.
Chas. Long, Fremont.

OAKLAND—Branch No. 5**O. M. C. O. R. O.—Branch No. 11**

S. N. Insley, Grayling.
F. E. Abbott, Sterling.
C. R. Keyport, Grayling.
A. C. Mackinon, Lewiston.

ONTONAGON—Branch No. 66

E. J. Evans, Rockland

OSCEOLA-LAKE—Branch No. 30

E. Fairbanks, Luther.

OTTAWA—Branch No. 32

J. J. Merson, Holland.
W. G. Winter, Holland.

PRESQUE ISLE—Branch No. 63.

Wm. W. Arscott, Rogers City.
C. A. Carpenter, Onaway.

SAGINAW—Branch No. 14

Jas. W. McMeekin, Saginaw.
A. R. McKinney, Saginaw.

SANILAC—Branch No. 20

J. A. Fraser, Livingston
E. Meyer, Carsonville.

SCHOOLCRAFT—Branch No. 57

S. H. Rutledge, Manistique.
W. J. Saunders, Manistique.

SHIAWASSEE—Branch No. 33

S. S. C. Phippen, Owosso.
J. A. Rowley, Durand.

ST. CLAIR—Branch No. 45

J. L. Chester, Emmet.
C. B. Stockwell, Port Huron.

ST. JOSEPH—Branch No. 29

W. A. Royer, Three Rivers.
F. K. Moyer, Three Rivers.
R. E. Dean, Three Rivers.

TRI COUNTY—Branch No. 62

R. J. E. Oden, Cadillac.
V. F. Huntley, Manton

TUSCOLA—Branch No. 44

W. C. Garvin, Millington.
R. A. Townsend, Fairgrove.

WASHTENAW—Branch No. 42

Reuben Peterson, Ann Arbor.
J. A. Wessinger, Ann Arbor.
Udo J. Wile, Ann Arbor.
Harry B. Schmidt, Ann Arbor.

WAYNE—Branch No. 2

All Detroit.

W. J. Wilson
R. E. Mercer.
H. W. Yates.
J. N. Bell.
J. A. MacMillan
C. D. Brooks
F. B. Walker.
Jas. Clelland.
J. D. Matthews.
F. B. Tibbals.
D. M. Campbell.
J. F. Davis.
R. A. C. Wollenberg.
J. H. Dempster.
W. J. Cassidy.
H. R. Carstens.
P. M. Hickey.

R. C. Andries.
H. W. Pierce.
J. H. Andries.
Harold Wilson.
L. J. Hirschman.
C. E. Simpson.
F. L. Newman.
A. McLean.
R. H. Stevens.

GENERAL MEETING

Wednesday, August 16, 10:00 A. M.

Place: Amphidrome

President—A. W. Hornbogen, Marquette.

Secretary—F. C. Warnshuis, Grand Rapids.

1. Call to order by the President.
2. Invocation: Rev. Wm. Ried Cross.
3. Address of Welcome, Mayor I. I. Hartman.
4. Address of Welcome, P. D. Bourland, President, Houghton County Medical Society.
5. Response on behalf of the State Society, President, A. W. Hornbogen.
6. Response on behalf of the Profession of the Lower Peninsula, C. B. Burr, Flint.
7. Report of Committee on Arrangements, A. F. Fischer, Chairman.
8. Report of the House of Delegates, the Secretary.
9. Address, F. A. Jeffers, Painesdale.
10. Address, "Papal Physicians," V. Rev. Francis X. Barth.
11. President's Annual Address, A. W. Hornbogen, Marquette.
12. Miscellaneous Business: Under this order it will be opportune for any member to bring before the Society any subject of general interest, either by informal discussion or formal resolution.
13. Nominations for President for 1916-1917.
14. Adjournment.

SECOND GENERAL SESSION

Thursday, August 17th, 11:30 A. M.

1. Call to order.
2. Reading of Minutes.
3. Report of the House of Delegates.
4. Miscellaneous Business.
5. Announcement of the Result of the ballot for President.
6. Introduction and Installation of the President-elect.
7. Resolutions.
8. Adjournment *sine die*.

SECTIONAL MEETINGS

SECTION ON GENERAL MEDICINE

Chairman—V. C. Vaughan, Jr., Detroit.

Secretary—H. M. Highfield, Riverdale.

**First Session, Wednesday Afternoon, August 16,
1:45 P. M.**

(The Secretary of the Section will collect all papers as soon as they are read).

1. The Diagnosis of Pancreatic Lesions.

Dr. A. M. Mortenson, Battle Creek.

Abstract. A discussion of the various lesions to which the pancreas is subject. Calling attention to the various symptoms and laboratory findings in these lesions and their indications, with special reference to the symptoms of pancreatitis.

2. Intestinal Toxemia.

Dr. C. D. Aaron, Detroit.

Abstract. What is understood by chronic intestinal stasis and intestinal toxemia. Etiology, course of intestinal toxemia, indican symptoms, medical and surgical treatment.

3. Discussion of Some Interesting Heart Cases.

W. J. Wilson, Detroit.

Discussion opened by Dr. A. W. Ives, Detroit.
Abstract not here.

**Second Session, Thursday Morning, August 17,
9:00 A. M.**

4. Peace and War in the Human Organism.

Dr. F. McDee Harkin.

Abstract. Harmony or peace an ideal of the universe, harmony or peace or health an ideal of mankind, enemies of the human organism classified, nature's methods of defence, man's methods of defence, application of foregoing to present world-war.

5. The Roentgen Examination of the Sella Turcica.

Dr. P. M. Hickey, Detroit.

Discussion opened by Dr. C. A. Crane, Kalamazoo

6. Age and Arterial Degeneration.

Dr. B. A. Shepherd, Kalamazoo.

Abstract. Nomenclature indefinite. Age and normal progressive arterial changes. Beginning of pathological changes. Site of lesions. Etiological productive factors. Pathological changes not limited to old age. Symptoms: increased blood pressure not necessarily a factor. Often indefinite early. Circulatory disturbances, renal symptoms. Disturbances of the central nervous system, muscular system and digestive system. Prognosis. Treatment: Reduction of blood pressure often vicious. Consideration of the various system units in outlining treatment.

7. The Diagnosis and Treatment of Chronic Interstitial Nephritis with Hypertension.

Dr. L. W. Howe.

Discussion opened by Dr. W. J. Wilson, Jr. Detroit

**Third Session, Thursday Afternoon, August 17,
1:45 P. M.**

8. Election of Chairman.

9. Symposium on Public Health and Tuberculosis.
The Campaign Against Tuberculosis.

Dr. W. DeKliene, Lansing.

The Tuberculosis Problem.

Dr. A. F. Fischer, Hancock.

Abstract. Meeting the problem requires an inventory of cases. Inventory means diagnosis. It is necessary for everyone to be acquainted with factors of diagnosis suitable to their viewpoint:

Symptoms which may be observed by any person.

Symptoms which the general practitioner would recognize.

Symptoms which belong to him who gives special attention to work.

Etiology and Diagnosis of Enlarged Bronchial Glands in Infancy and Childhood.

Dr. C. H. Johnston, Grand Rapids.

The Treatment of Enlarged Bronchial Glands in Infancy and Childhood.

Dr. H. M. Rich, Detroit.

Discussion opened by C. G. Parnell, Jackson;
J. S. Pritchard, Battle Creek.

SECTION ON SURGERY

First Session, Wednesday Afternoon, August 16th, 1:45 P. M.

Chairman—Alex. McKenzie, Port Huron.

Secretary—A. W. Blain, Detroit.

1. Chairman's Address—"To be Forewarned is to be Forearmed."

Alexander McKenzie, M.D., Port Huron.

2. Dislocations of the Ankle,

Angus McLean, M.D., Detroit.

Discussants: Alexander Campbell, Grand Rapids
V. L. Tupper, Bay City.

3. Pure Cholesterin Stones in Gall Bladder Surgery.

Henry J. Vandenberg, M.D., Grand Rapids.

Discussants: Frank B. Walker, Detroit.
W. Ballard, Bay City.

4. A Simple Operation for Severe Cases of Hyperthyroidism.

Max Ballin, M.D., Detroit.

Discussants: Clark D. Brooks, Detroit.
C. G. Darling, Ann Arbor.
George Potter, Detroit.

Second Session Thursday, August 17, 9 A. M.

5. Indication for Operation in Goiter Cases and the Post-Operative Results.

A. E. MacGregor, M.D., Battle Creek.

Discussants: Frank C. Witter, Petoskey.
Ray Andries, Detroit.

6. Diagnosis of Surgical Conditions of the Abdomen.

J. A. MacMillan, M.D., Detroit.

Discussants: G. C. Penberthy, Detroit.
Ray Stone, Battle Creek.

7. Nitrous-Oxide in General Surgery and Obstetrics.

Wm. T. Shannon, M.D., Detroit.

Discussants: H. E. Randall, Flint.
Frank Kelly, Detroit.

8. Surgery of the Brain.

H. N. Torrey, M.D., Detroit.

Discussants { Alexander M. Sterling, Detroit.
F. C. Warnshuis, Grand Rapids.
Rowland Parmenter, Detroit.

9. The Direct Transfusion of Blood.

John J. Reycraft, M.D., Petoskey.

Discussants { Harry Pepper, Detroit.
Walter C. Vaughn, Detroit.

Third Session Thursday, August 17, 1:45 P. M.

Election of Chairman and Secretary.

10. An Operation for the Correction of Torticollis.

A. D. LaFerte, M.D. Detroit.

Discussants { Wm. E. Blodgett, Detroit.
D. E. Robinson, Jackson.

11. Surgery of a Country Hospital.

W. J. Herrington, M.D., Bad Axe.

12. Signs and Symptoms of Posterior Fossa Tumors

Heindrick A. Reye, M.D., Detroit.

Discussants { H. N. Torrey, Detroit.
Max Ballin, Detroit.

13. Surgical Diseases of the Gall Bladder and Ducts.

G. S. Ney, M.D., Port Huron.

Discussants { Wm. J. Cassidy, Detroit.
R. E. Balch, Kalamazoo.
A. D. McAlpine, Detroit.

14. The Diagnosis and Treatment of Anal and Rectal Fistula. (Lantern slides.)

Louis J. Hirschman, M.D., Detroit.

Discussants { J. A. MacMillan, Detroit.
Arthur O. Hart, St. Johns.

SECTION ON GYNECOLOGY AND OBSTETRICS

First Session, Wednesday, August 16th, 1:45 P. M.

Chairman—C. E. Boys, Kalamazoo.

Secretary—Henry J. Vandenburg, Grand Rapids.

1. Symposium on: "Gynecological Neurosis."

(a) W. P. Manton, Detroit.

Abstract. The idea of insanity resulting from diseases of the pelvic organs is very ancient, and the myth still prevails among certain classes, of people and the profession. If we accept the partial definition that "Insanity is a manifestation in language or conduct of disease or defect of the brain," it is only necessary to determine whether pelvic disorders in women can or do lead to such derangements of the higher cerebral centers. The collected experiences of a number of competent observers seem to disprove this, but at the same time show that disease of the uterus and appendages, as disease developed in any other part of the body, may, through resulting irritation, pain and suffering, increase the manifestations of the mental sickness. Attempts to classify the varieties of insanity associated with particular pelvic disorders is fruitless and leads to no satisfactory conclusions. It is the writer's belief, reiterated through many years, that the insane woman is entitled to somatic relief without reference to the effect on the mind, and that such relief is usually followed by greater or less improvement in the mental symptoms, but that neither local treatment nor surgery is *per se* productive of cure.

(b) Reuben Peterson, Ann Arbor.

Abstract. It is absolutely essential that the practitioner and specialist distinguish between nervous manifestations in women due to defective nervous systems where the pelvic organs are normal, or at most, poorly developed and inactive, and quite similar manifestations where the pelvic organs are diseased. In case of disease of the pelvic organs it does not necessarily mean that a cure of this disease will change an abnormal organization into one which is normal. The woman may have been born defective and the restoration of certain organs to normal, while it may help, will not cure. On the other hand, just as with the woman with mental disease, she is entitled to relief locally although she may not be made normal as regards her nervous system.

Failure to recognize these fundamental facts inevitably leads to many unnecessary and consequently unjustifiable operations. Unless one be qualified to make a differential diagnosis between so-called neuroses aggravated by pelvic disease, and neuroses without disease of the genital organs, he should neither operate nor advise operation. Citation of illustrative cases.

(c) R. R. Smith, Grand Rapids.

Discussion led by Dr. C. D. Camp, Ann Arbor.

Second Session, Thursday Morning, August 17th, 9:00 A. M.

2. Sarcomatous Degeneration of Uterine Fibroids.

Dr. Frank C. Witter, Petoskey.

Abstract. This report of cases is taken from the clinical material of all types of pelvic pathology covering several thousand registrations in the Gynecological Clinic of the University of Michigan. The cases discussed show degenerative fibroids undergoing sarcomatous change. Those types which are apparently primarily sarcomatous are not included.

The condition is one of comparative infrequency but there is no method of making diagnosis early without surgical intervention. All types of fibroma are susceptible to this change.

Fibroids are not always as benign as previously supposed. Treatment in all cases should be surgical.

3. X-Ray Findings in Pelvic Conditions.

Dr. James T. Case, Battle Creek.

Abstract. Normal anatomy and physiology of the pelvic colon as shown by the X-ray. The question of pelvic colon adhesions and their relation to constipation. Spasticity, colitis, diverticulosis, carcinoma. Rectal constipation.

4. Retroversion of Uterus and Its Correction.

Dr. Edw. T. Abrams, Hancock.

5. End Results in 100 Round Ligament Operations.

Dr. H. W. Hewitt, Detroit.

Abstract. Brief history of progress made in surgical treatment as shown by extension of the limits of operability and the increase in the number of five year cures. The value of cautery treatment; of combined cautery and radical abdominal hysterectomy. A consideration of the employment of radium and roentgenotherapy.

Suggestion of combined roentgenotherapy with hysterectomy in operable cases and of combined roentgenotherapy and cautery in the inoperable cases.

Third Session, Thursday Afternoon, August 17th, 1:45 A. M.

6. Election of Chairman.

7. Symposium on: The Hemorrhages of Pregnancy.

(a) The First Half of Pregnancy.

Leslie H. DeWitt, Kalamazoo.

(b) The Latter Half of Pregnancy.

Alexander M. Campbell, Grand Rapids.

(c) Post Partum Hemorrhages.

L. S. Ramsdell, Manistee.

SECTION ON OPHTHALMOLOGY, OTOLARYNGOLOGY

Chairman—**Stanley G. Miner, Detroit.**

Secretary—**Wilfred Haughey, Battle Creek.**

First Session, Wednesday, August 16th, 1:45 P. M.

1. The Traumatic Transplantation of Cilia into the Anterior Chamber.

Dr. Howell L. Begle, Detroit.

Abstract. Report of three cases. Discussion of the complications which may arise from eyelashes being carried into and remaining in the anterior chamber. Discussion of the question of the spontaneous expulsion of transplanted cilia. Operative removal of cilia from the anterior chamber.

2. Bacteriology of Acute Ear Infections.

Dr. Edward J. Bernstein, Kalamazoo.

Abstract. Acute infections middle ear fraught with too much danger to be ignored to the extent at present.

True; spontaneous cure takes place in vast majority, most treatment ordinarily applied, futile. Cures not traceable to them, but because patient makes enough protective product to overcome infection and the anatomic conditions are favorable to spontaneous cure, when either above not at hand, then chronicity or death. Some cases have mastoid involvement from incipency, notably in cases of Strep. Mucosus, or Strep. Haemolyticus.

Prompt opening drum, and microscopic examination of fluid obtained. Preparation of vaccine in case of need.

Need for ascertaining, number of times, whether bacteremia exists. Cultures to be made on several kinds of media so as not to miss any infecting organism.

Infections from Strepto. Mucosus rather frequent and symptoms characteristic. Cranial complications and great necrosis common. Also Thrombosis Sinus.

Fallacy of reliance on Vis Medicatrix Naturae. Nature no more anxious for the huge mass of protoplasm than the single mass in the infecting organism.

All cases should be considered and classed according to their bacterial cause and anatomic variety.

3. Some Phases of the Anatomy of the Nose and Accessory Sinuses. Lantern Slide Demonstrations

Dr. Hanau W. Loeb, St. Louis, Mo.

4. Removal of One Vocal Cord for Abductor Paralysis.

Dr. Charles H. Baker, Bay City.

Abstract. Some of the difficulties in diagnosis of Recurrent Laryngeal Paralysis, and in differentiation from foreign body in the larynx. Difficulty in intubating or in passing the bronchoscopic tube. Spasm which folded the epiglottis even under deep anesthesia.

Reasons for tracheotomy instead of intubation.

Prevention of growth of granulation tissue into fenestrum in the tracheotomy tube. Reasons for and operation for removal of one cord. Difficulty in extubation, training for, and final result.

Second Session Thursday, August 17th, 9:00 A. M.

5. Report of Two Cases of Labyrinthitis Complicating Acute Suppurative Otitis Media.

Dr. Don M. Campbell, Detroit.

6. Macroglossia Lymphangioma.

Dr. Wilfrid Haughey, Battle Creek.

Abstract. Report of a case, with laboratory findings. Review of the literature.

Third Session, Thursday, August 17th, 1:45 P. M.

7. Election of Chairman.

8. Syphilitic Iritis.

Dr. Peter J. Livingstone, Detroit.

9. Antral Operations From the Standpoint of Oral Surgeons.

Dr. Charles H. Oakman, D. D. S., Detroit.

PROGRAM OF THE COUNTY SECRETARIES' MEETING, TUESDAY EVENING, AUGUST 15

President—**F. C. Kinsey, Grand Rapids.**

Secretary—**Alex McKinney, Saginaw.**

PRESIDENT'S ADDRESS. (Five minutes).

"Some Secrets Told Through a Megaphone."

Dr. Frank Cameron Kinsey, Grand Rapids.

PHASES OF COUNTY SOCIETY WORK.

(Strictly limited to three minutes).

"Getting Out a Good Attendance."

Dr. Leslie H. S. DeWitt, Kalamazoo.

"Problems of a County Society."

Dr. H. T. Carriel, Marquette.

"The Society Secretaryship: An Office Worth While."

Dr. A. R. McKinney, Saginaw.

"Attendance and Plans for Securing Same."

Dr. Otto L. Ricker, Cadillac.

"The Big Problem of the Small Society."

Dr. Wm. W. Arscott, Rogers City.

"Programs."

Dr. R. C. Winslow, Sault Ste. Marie.

"Financing a Medical Society."

Dr. Geo. E. Moore, Ironwood.

"The County Secretary as a Peacemaker."

Dr. J. L. Nitterbauer, Ontonagon.

"Social Affairs."

Dr. Geo. A. Conrad, Houghton.

State News Notes

Parke, Davis & Co. announce the publication of their 1916 price list, which is said to be an improvement in many respects over any previous issue of this valuable catalogue. The book is divided into three parts: Part 1—Fluid Extracts, Pills, Elixirs, Syrups, Tablets, etc.; Part 2—Specialties, into which have been merged Special Preparations; Part 3—Biological Products. The nomenclature of the U. S. P., Ninth Revision, has been adopted in the new list, the term "milliliter" ("mil") being substituted for the cumbersome "cubic centimeter." The standards of the new U. S. P. applying to fluid, solid and powdered extracts and tinctures, together with the doses, have also been adopted. All Harrison-act items (products that must be ordered on official order forms) are clearly distinguished. Its amplitude, its handy classification, its comprehensive general index, all serve to make the new catalogue a reference book of the utmost value to medical practitioners. We understand that the book will be

ready for distribution about August 1. Physicians are advised to write for a copy, addressing their requests to Parke, Davis & Co., Detroit, Mich.

Those who are intending to go to Houghton can make the trip doubly enjoyable by going by water from Port Huron. The Port Huron & Duluth Steamship Company's steel steamers run between Port Huron and Houghton, and one of them will leave Port Huron at 10 p. m. Central time on Aug. 12, arriving at Houghton Aug. 14 at 2 p. m. Returning will leave Houghton Aug. 17. This ought to make a very enjoyable trip. W. S. Jenks, the general passenger agent at Port Huron, will give you full particulars and booklets.

FOR SALE—Western Michigan practice of \$2,700, with introduction to purchaser of my residence property located in fine County Seat town of 1600. Electric lights, artesian water, fine roads, schools, churches and collections. Large thickly settled territory. Price \$2,700. Terms, address (M. D.) *Care Journal*.

Canadian authorities have decided to amend their rulings so that graduates of recognized American Medical Schools may take the Canadian Council examination without being compelled to spend a year in a Canadian college.

Dr. J. G. White of Mt. Clemens and Miss Loveless of Ithaca were married June 19.

Dr. C. C. Thomas has accepted a position on the staff of the Traverse City State Hospital.

Dr. J. A. Keho was reappointed Health Officer of Bay City.

Dr. H. R. Varney was chosen chairman of the Section on Dermatology of the A.M.A.

Dr. W. S. Grimes of Detroit is a candidate for election as Coroner.

Dr. W. J. Smith of Cadillac has been appointed health officer.

Dr. D. Emmett Welsh of Grand Rapids has been appointed to membership on the Board of Health.

Deaths

Dr. G. F. Knowles of Manistee died July 13 following an illness of eight months with anemia. Dr. Knowles was a prominent physician of Manistee for twenty-nine years.

Dr. Thomas Henderson of Detroit died July 4 at his home 895 Mt. Elliott Avenue. He was a

prominent physician and school board head. Dr. Henderson died from apoplexy. Three years ago he suffered a stroke of paralysis, but he recovered and continued in good health until Monday noon when he became seriously ill.

County Society News

HURON COUNTY

A regular meeting of the Society was held at Harbor Beach July 11, 1916. This meeting was largely in the form of a social gathering for the doctors and their families. The only paper on the program was an article entitled, "How to Prepare and Send Specimens to the State Board of Health Laboratory" by A. A. Spoor, M.D., Lansing. The social features were a trip through the Starch factory, a boat ride upon Lake Huron and afterwards a chicken supper at a Shore Hotel. So much pleasure and good will was shown that it was planned to make the Harbor Beach meeting an annual feature of the Society.

S. B. YOUNG, Secretary.

Book Reviews

1915 COLLECTED PAPERS OF THE MAYO CLINIC, Rochester, Minn. Octavo of 983 pages, 286 illustrations. Philadelphia and London: W. B. Saunders Company, 1916. Cloth \$6.00 net; Half Morocco \$7.50 net.

The 1915 edition of the Collected Papers of the Mayo Clinic exceeds if anything all previous editions. We do not know of any other volume of 950 pages that covers so many subjects. Every article is of intrinsic value and imparts the latest and accepted viewpoint of the subject discussed and when the entire group of articles are considered only one conclusion can be drawn and that is that it is the volume par excellence and a source of authoritative opinion.

There are no one article or no one subject that may be singled out for exceptional comment or review. The entire number is replete with discussions that bear upon the important subjects that are receiving the attention of the profession today.

It is a volume that we urge every reader and student to secure and to frequently refer to it in the course of his readings and writing. One cannot well afford to be without it.

DISEASES OF THE EYE. By George E. de Schweinitz, M.D., LL.D., Professor of Ophthalmology in the University of Pennsylvania. Eighth Edition, Thoroughly Revised and Enlarged. Octavo of 754 pages, 386 text illustrations, and seven lithographic plates. Philadelphia and London: W. B. Saunders Company, 1916. Cloth, \$6.00 net; Half Morocco \$7.50 net.

In the Eighth Edition of this text-book its chapters have been revised thoroughly in an endeavor to include due reference to the important ophthalmic

observations and therapeutic measures which have been made and recommended during the last three years.

Another new feature noted in the introduction of the metric equivalent of the doses of remedies and strength of solutions.

This edition is the first of this valuable work that contains record or reference of the following new subjects: Walker's Method of Testing the Visual Field; Squirrel Plague; Anaphylactic Keratitis; Family Cerebral Degeneration with Macular Changes; the Ocular Symptoms of Diseases of the Pituitary Body; Holth's Operation; Homer Smith's Operation; Iridostasis; and similar other recent proven methods.

A portion of the Chapter on Iritis has been rewritten and Elliot's Operation is described by the originator. A goodly number of new illustrations have been inserted.

This work, long a standard, from the pen of America's leading ophthalmologist, in its eight edition, may be pronounced as the most authoritative work upon the subject. It deserves a place in every medical library and merits a pre-eminent position.

THE CLINICS OF JOHN B. MURPHY, M.D., at Mercy Hospital, Chicago.. Volume III, Number III (June, 1916). Octavo of 176 pages, 42 illustrations. Philadelphia and London: W. B. Saunders Company, 1916. Price per year, paper, \$8.00; cloth, \$12.00.

Received.

Miscellany

DO YOU KNOW THAT

Clean water, clean food, clean houses make clean, healthy American citizens?

The State of California has reduced its typhoid death rate 70 per cent. in the past ten years?

Rats are the most expensive animals which man maintains?

It is estimated that the average manure pile will breed 900,000 flies per ton?

It's worry, not work, which shortens life?

A cold bath every morning is the best complexion remedy?

Poor health is expensive?

The U. S. Public Health Service has reduced malaria 60 per cent. in some localities?

The death rate from typhoid fever in the United States has been cut in half since 1900?

Pneumonia kills over 120,000 Americans each year?

Flyless town has few funerals?

The well that drains the cesspool is the cup of death?

Better wages make better health?

Better health makes better citizens?

Better citizens make a better nation?

Cholera is spread in the same manner as typhoid fever?

The U. S. Public Health Service found 78 per cent. of the rural homes in a certain county unprovided with sanitary conveniences of any kind?

Hookworm enters through the skin?

When Medicines are not Required or are Useless.

—Promoters of proprietary "uterine tonics" would have their preparation administered to girls and to pregnant women whether indicated or not and in conditions where medicines plainly can do no good. The testimony of E. E. Montgomery, Professor of Gynecology at Jefferson Medical College, Philadelphia, in the "Cardui" trial forcibly brings out the objections to the indiscriminate administration of medicines to girls and women and the futility of their use in cases which need surgical attention. Regarding the administration of "tonics" to girls at puberty he said that to advise a girl who is undergoing a physiological process that she must take some medicine which contains alcohol or any habit-forming drug at this period of her life, which is the most impressionable period of her existence, is doing that which is placing her future in peril, and is without any possible benefit. Regarding the administration of a "tonic" such as Wine of Cardui is supposed to be, he testified that it can do nothing but harm; that a woman because she is pregnant, pregnancy being a physiological process, does not need medicine, but needs attention. Regarding the use of medicines in uterine prolapse as a means of strengthening the unstripped muscle and thus to help the muscle to perform its work to hold the womb in place, Dr. Montgomery explained that the unstripped muscle in the women is not likely to be affected by medicine and that the tissue outside the womb is unlikely to be affected by medicine; to give medicine in the case of a woman who has prolapsus is just about as reasonable as to bathe one's suspenders with a solution when the elastic tissue has been destroyed from them (*Jour. A.M.A.*, May 6, 1916, p. 1481).

What is a "Medical Authority?"—There has been a tendency to look upon publishers of text books as authorities and not to consider a physician as an authority on a certain subject unless he has written a text book on it. That the publication of a book does not prove its writer to be an authority is the opinion of J. Clarence Webster of Rush Medical College expressed at the Cardui case which is being tried in Chicago. Having referred to Frank Billings as an authority, Webster was asked to define the term "authority." He replied: "As far as a human being can be an authority on anything, I would regard a man who had worked at a particular subject in a scientific manner over a period of time, and who had more experience in that subject than other people, or most other people, as the best human authority that could be found." Asked if a man was more of an authority if he had written a book, Webster replied: "Often less in the eyes of the world" (*Jour. A.M.A.*, April 29, 1916, p. 1410).